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COMMUNICATIONS.

CHLORAL HYDRATE AS AN ANTIDOTE
TO STRYCHNIA.

BY H. H. KANE, M.D.,
Of New York City.

Liebreich was the first to demonstrate the physiological antagonism existing between chloral hydrate and strychnia, more especially the power of the former to save life in cases of poisoning by the latter. The power of strychnia to antidote the poisonous effects of chloral was also considered, but is by no means so well proven as the influence of chloral in strychnia poisoning.*

Since then chloral has been used as an antidote in a number of cases of strychnia poisoning. C. M. Worthington† reports one case where chloral was successfully used. Another is reported to me, by letter, by Dr. F. Delmont, of San Buena Ventura, Cal.

The following interesting case is reported by Dr. George Gray, in the *British Med. Journal*:‡

On December 30th, 1879, I was called upon to visit a man living about two miles and a half distant, who, the messenger informed me, had taken a poisonous dose of strychnia. When I arrived at the house, about half-past twelve o'clock, I found the patient, a man of 34 or 35

years of age, supported in bed in a semi-recumbent position, with his head thrown back, his eyes staring, and evidently suffering from the usual symptoms of poisoning by strychnia. The muscular spasm came on with a tremor like a jerky kind of convulsion, and recurred about every three minutes. During the spasm the breathing was irregular, and the breath came through the closely-clenched teeth with a hissing sound. The angles of the mouth were drawn down, and the peculiar Sardonic grin well marked; the skin was cold, and covered with a clammy perspiration. The pulse was very weak and quick, but not irregular. During the intervals between the convulsive attacks the spasm of the jaw did not pass off, and any attempt to open the mouth forcibly at once brought on a fresh attack, which was preceded by a peculiar sound—half groan, half cry.

Having brought with me a solution of two drachms of hydrate of chloral in two ounces of water, I poured half of it into a cup, and managed slowly to administer it with a teaspoon by inserting the point of the latter in a space where he had lost two molar teeth, and directed him to suck in the fluid. This he did in the intervals of the attacks, swallowing it with a gulp until the ounce of fluid was taken. After swallowing the chloral, he had only two severe spasms, the latter less marked than the former; and at gradually lengthening intervals they became less severe. In ten minutes the jaw so relaxed that I thought I could introduce the tube of a stomach-pump, but as doing so seemed to cause great distress, and increased the jerking of the muscles, I did not persevere, but gave him an emetic of thirty grains of sulphate of zinc and warm water,

* "Ueber das Strychnia als Antidot bei Chloral-Vergiftung," vorgelegt von Herrn du Bois-Reymond, in der *Gesamtsitzung der Königl. Acad. der Wissensch.* zu Berlin, 9 Dec., 1869. "Strychnia als Antidot bei Chloral-Vergiftung." *Ber. d. deutsch-chem. Ges.*, 1869, p. 673. "La strychnine comme antidote du chloral." *Compte Rendu de l'Acad. des Sciences*. 1870, t. 70 p. 403.

† *Pacific Med. and Surg. Jour.*, Aug., 1879.

‡ *Medical Gazette*, April 24, 1880.

and when this had acted, I gave him a drachm of tannin; this he vomited also.

After waiting for an hour, as there were now and then slight tremors in some of the muscles, as no doubt some of the chloral was removed by the emetic, and as there was not any drowsiness, I gave half what remained of the solution—that is, half a drachm of chloral-hydrate, and applied warmth to the skin. In another hour he was so much improved that I left, giving directions that if he had any more twitching, or if he had not any drowsiness—which had not yet appeared—to give him in three hours the remainder of the draught, and to let me hear of him in the evening. At seven o'clock I heard that he had the chloral draught at five, but had not slept, and was feeling comfortable, having no more vomiting or convulsions. I ordered him a dose of castor-oil at bedtime.

There is nothing further to note of the progress of the case, as two days afterwards he was at his usual work.

On making inquiry I found that for a fortnight before he had been drinking constantly, and was in bad spirits about losing his situation, and that about half-past ten on that morning he purchased some strychnia, ostensibly to poison rats. He then went into a public house, ordered a glass of whisky, stirred in the strychnia, and at once drank it off, adding water to the tumbler to suspend a few crystals that remained, and swallowed these as well, so that both the man who was with him and the patient assured me had taken all he purchased, which was sold to him for twenty grains. After taking the poison, he told his friend it was a powder he had bought to "put his stomach into good order." He then felt sick, went out into the yard of the public house and vomited, got on a car which was waiting for him, and drove home, where he announced what he had done. His friend at once melted a pound of butter and made him swallow it, and sent for me. As well as I can make out, the symptoms came on about an hour after he took the poison, and had continued about an hour when I saw him.

I have thought the case worth bringing forward, on account of the large dose of the strychnia, and also as showing well the antagonism between chloral-hydrate and strychnia, and the great value of the former as an antidote in poisoning by the latter. Although some of the chloral must have been lost when the patient first vomited, enough was given afterward to produce profound sleep in an ordinary man, and yet the physiological action of the drug was not manifested in the slightest degree, but seemed to be neutralized by

the action of the strychnia. Living as I do in the vicinity of several demesnes, which are strictly preserved, and in which poison has been sometimes laid for vermin, I have frequent opportunities of administering chloral-hydrate to dogs which have accidentally picked up strychnia; and out of the number I have been able to save five. This is the first time I have had an opportunity of testing the value of the antidote in the human subject, and from the marked and immediate relief it afforded, I can speak very highly of its value. With regard to the enormous quantity taken, two things at once suggest themselves; was it all taken? And if so, was it pure strychnia? Both the patient and his friend affirm that he was most particular in washing every crystal out of the tumbler, with water which he swallowed, and that he must have taken it all. As to the purity, I applied the rough tests given for the purity of the alkaloid in the *Materia Medica*, and according to these it was pure. This, however, did not satisfy me; so having obtained from the same person a like quantity, out of the same bottle, through the kindness of Professor Cuming, I had it analyzed, and I think I cannot do better than read for you what Dr. Lefts, Professor of Chemistry, Queen's College, Belfast, says of it. "I have carefully examined the strychnia. Its weight amounted to 1.554 grams, that is, over 22 grains. That such a quantity, could have been taken without a fatal result is almost inconceivable, and I was much inclined to believe that the sample was largely mixed with some cheap alkaloid or with mineral matters. I have tested for brucine, quinine and mineral matters, but can find none. I have also made a quantitative analysis. Strychnia gives an insoluble chloroplatinate, and the chloroplatinate contains 18.3 per cent. of platinum. If the sample of strychnia you gave me consisted of pure alkaloid, 0.315 parts ought to give 0.510 of the chloroplatinate, instead of which, I got 0.462; the slight deficiency being due, probably, to the fact that the chloroplatinate is not absolutely insoluble in water, and thus some remained in solution. If we calculate from the weight of chloroplatinate found that of the pure strychnia taken, the result is 96.4 per cent. of the sample actually taken. In other words, the sample you gave me contains at least 96.4 per cent. of pure strychnia. To be quite certain that the salt which I obtained by dissolving the sample in hydrochloric acid and adding chloride of platinum was really the chloroplatinate of strychnia, I determined the platinum in it. It amounted to 18.3 per cent., where-as the calculated percentage of platinum is 18.3.

There cannot be the slightest doubt, therefore, that the sample of strychnia you gave me consists almost entirely of pure strychnia."

Now, that a man could take 22 grains of strychnia and afterward recover, is remarkable, and I think we can only attribute the result to a combination of circumstances. He had been drinking for some time, and his stomach was in an irritated state, which retarded absorption of the poison. The strychnia, being taken in crystals, was not dissolved for some time. The vomiting, in this instance, enabled him to get rid of some of it. The butter which his friend gave him further helped to delay the advent of the symptoms, but, notwithstanding all these, enough strychnia remained to produce very severe symptoms of poisoning; and I feel certain that the good ending of the case was owing chiefly to the action of the hydrate of chloral.

Professor Huseman,* of Göttingen, has been engaged in a long series of observations on the antagonistic and antidotal actions of drugs, and some of his investigations which relate especially to chloral are described in a recent number of the *Archiv für Experm. Pathologie*. Of these the following is a summary: Chloral hydrate is known to act as an antidote to strychnine, lessening the spasm, and even preventing death. It has a similar action in the case of the mixture of strychnine bases sold under the name of brucin, and also against the opium alkaloid thebaia, which simultaneously tetanizes and lessens sensibility. The spasms produced by chloride of ammonium diminish under the employment of non-fatal doses of chloral hydrate, and can, indeed, be completely stopped. Nevertheless death occurs, probably from the paralyzing effect of both substances on the respiratory centre. The antidotal effect of chloral on the action of the poisons which cause convulsions by their action on the brain is not the same for all these substances. The quantity of the poison which can be counteracted by the antidote appears to be considerably greater in the case of picrotoxin than in the case of codeia. Of the latter, indeed, the fatal dose, and even a quantity half as much greater, can be rendered harmless, but twice the fatal dose cannot be counteracted, and is still fatal. Calabarin is counteracted by chloral hydrate in about the same degree as codeia. The symptoms produced in rabbits by poisoning with baryta are not materially altered by the action of chloral, which does not appear to prolong life. So, also, with carbolic acid; the spasms produced by it are not arrested by

chloral, and the minimum dose fatal to rabbits still produces death. The combination of a fatal dose of carbolic acid with a non-fatal dose of chloral hydrate causes in rabbits a remarkable fall of temperature, which is not produced by the action of these alone. As a rule, when chloral antagonizes the action of these cerebral poisons, the respiration sinks in frequency much more than in the case of the analogous action of chloral on the tetanizing poison. The depression of temperature caused by the chloral is almost independent of any peripheral loss of heat. The elevation of temperature, due to division of the spinal cord, is hindered by chloral hydrate. The depressing action of thebaia and codeia on the cerebrum, which is distinctly perceptible in many animals in addition to their action in causing spasm, is the chief effect recognizable in man. On the one hand, thebaia has a distinct action in lessening pain; and on the other, in human poisonings with this opium alkaloid, chloral hydrate is of little use, and in the case of poisoning by codeia, on account of the collapse which is produced, it is positively injurious.

Mr. Groves* relates the case of a dog poisoned by an unknown quantity of strychnia, where chloral rapidly caused a cessation of all bad symptoms.

At Mt. Sinai Hospital, this city, a man aged twenty-seven years was being given, subcutaneously, one-fortieth of a grain strychnia, ter in die, for the relief of spinal difficulty. February 11th, 1877, at 11.10 A.M., he was by mistake given subcutaneously two-fifths of a grain of strychnia; at 11.45 violent convulsions. Was given fifty grains of chloral, subcutaneously, with the result of removing all spasm by 12.25 P.M. On the 24th of February he was again given one-third of a grain of strychnia subcutaneously. Convulsions again ensued. Again antidoted by fifty grains of chloral hydrate, subcutaneously, in divided doses. Very severe abscesses formed at the point of puncture.

Mr. J. Gilbert Candy† and W. S. Graves relate a series of experiments on animals, that afford evidence of the antidotal power of chloral over strychnia.

Dr. S. A. Turner, attending surgeon, Grand River Agency, D. T., records a case of poisoning by an unknown quantity of strychnia, given to an Indian by a jealous squaw. Spasms came on soon after partaking of poisoned food, of

* *Pharmaceut. Jour.* HALF-YEARLY COMPENDIUM. July, 1870.

† *Pharmaceutical Journal*, August 21st and 28th, 1876.

* *Lancet*, March 16, 1879

which he took but a mouthful. Intervals between spasms when first seen by doctor, some hours after, from thirty to sixty seconds. One hundred and five grains of chloral were given in divided doses in the course of three or four hours, after which no more spasms. Recovery.*

The following interesting case histories are sent me by Dr. Delmont, of San Buena Ventura, California:—

CASE 1.—Mr. M., aged forty, while visiting friends, ate some watermelon on which strychnia had been put to destroy squirrels. An emetic had been administered before my arrival; the spasms were very severe; gave thirty grains chloral in syrup; kept the patient as quiet as possible; ordered the chloral repeated every two or three hours. He took one hundred and eighty grains chloral in all; perfect recovery took place; he went to his business next day. Could not ascertain the amount of strychnia taken.

CASE 2.—Mr. K., aged fifty-five, took strychnia with suicidal intent; in this case no vomiting took place, owing to the obstinacy of the patient in refusing to submit to any treatment; gave him forty grains of chloral, (the spasms were frightful). After that dose the spasms were less severe; repeated the chloral in thirty minutes, when the spasms became very light; kept up with the chloral every few hours until morning; two days after the patient went home. In this case fourteen grains of strychnia were taken. One hundred and eighty grains of chloral were given.

CASE 3.—Mr. F., aged forty-two, took strychnia with suicidal intent, a few doors from my office. As in the preceding case, he refused to take any antidote. I tried to use the stomach pump, but owing to the powerful strength of the patient and his obstinacy, could not make it work. Gave forty grains of chloral in syrup; the spasms stopped entirely within thirty minutes; kept giving chloral at intervals of two or three hours, for twelve hours; the patient made a good recovery. In this case seven grains of strychnia had been taken. The amount of chloral used was one hundred and sixty grains.

A most extraordinary case of recovery from strychnia poisoning, due to treatment by chloral hydrate, is reported in last week's *Lancet*, by Dr. Charteris,† Physician to the Royal Infirmary, Glasgow. On March 12th, a butcher of this city, in a despondent condition, bought from a chemist two sixpenny packets of Gibson's vermin killer.

* *Medical and Surgical Reporter*, June 15th, 1872. *Practitioner*, 1874. p. 380.

† *Lancet*, April, 1875.

These contained two grains of strychnia in each. Then he adjourned to the parlor of a public house, bought some whisky, in which he dissolved the contents of the two packets, added some ginger ale and drank off the mixture. In order to make sure work of it, he bought another draught of ginger ale and drank it from the same glass, so as to dissolve any remnants of the poison; this was about 11.30 A.M. Then he walked across the street to a butcher's shop and asked to be allowed to sit down. A succession of tetanic fits ensued, and these seem to have continued for several hours. About 1 P.M. an emetic of hot water and sulphate of zinc was given, which, however, produced only partial vomiting. It was 3.30 P.M., when he was brought to the Royal Infirmary. He was in great agony; violent tetanic spasms followed each other in quick succession, increasing in severity. With great difficulty the stomach pump was passed, but only some sour, watery fluid was withdrawn. At 4.50 P.M. ten grains of chloral hydrate, in syrup, were administered; twenty minutes after the dose was repeated and at 5.30 twenty grains were given. Immediately afterward there was a severe and prolonged spasm, succeeded by a flaccid state of the muscular system, hurried respiration, quickened pulse and drooping eyelids, phenomena which indicate the effect of chloral. Three more doses, 10 grs. each, were administered between this and 9 P.M., the symptoms of poisoning subsiding. The patient was dieted on milk and rice, and in four days had completely recovered. He said if he wished to die again he would choose something other than Gibson's vermin killer. Dr. Charteris afterwards tried some experiments on rabbits, and found that the strychnine most decidedly checked the poisonous effect, though in one case, when a longer interval had been allowed to elapse between the poison and the antidote, the animal was paralyzed from the middle of the spine downward. It is stated, also, to account for the slowness of the action of the strychnine in the man's case, that he had previously taken a substantial breakfast of ham and eggs.

Dr. Wm. G. Wilson, of Shelbyville, Ill., sends me the following:—

On February 22d, 1870, about 11 P.M., I was called to visit a patient supposed to have intentionally swallowed poison. While making ready to attend to the call, I learned much of the following history of the patient from the messenger, a man:—

M. S., a woman about thirty-three years of age, of doubtful virtue, with whom he, the mes-

senger, had for some months been keeping company; that night, after eating a very light supper, at a late hour, she expressed in his presence a wish to die. He having ascertained that she possessed a bottle of poison, and fearing that she might do some mischief with it, undertook to hunt it up from among her effects; while doing so he noticed her take something into her mouth from a paper, and becoming alarmed started for me. I arrived at the house about forty-five minutes after the supposed poison had been swallowed. Found the patient, a tall, large-boned, not very muscular woman, sitting on a lounge, very restless, hands cold, pulse weak and accelerated, respiration hurried, pupils somewhat contracted, and reticent when questioned as to whether or not she had swallowed poison, but willing to take remedies.

As there was no certainty as to what poison, if any, had been taken, I at once gave her, in about two ounces of water, twenty grains of pulv. ipecac. She had just swallowed the dose when her whole muscular system was convulsed with a tremor or shudder, so very characteristic of strychnia poison, followed by slight emprosthotonos, her neck coming in contact with my head as I sat in front of her. I immediately dissolved in about two ounces of water what I judged to be, without weighing, twenty-five grains of chloral hydrate (and I frequently administered it so, also, after weighing), manufactured by E. Schering, of Berlin, and gave it to her. The dose was not entirely in the stomach when she had a second emprosthotonic spasm, that threw her off of the lounge, and a portion of the chloral regurgitated, which she spat out on the floor; but there was no emesis, nor was there at any time. I now had her placed on the lounge, on her back, and two men were directed to hold her there, where she had a number, perhaps twenty or thirty, of those emprosthotonic convulsions, the most violent of which would throw her against the foot of the lounge, together with those restraining her, when the latter were off their guard at the time of attack.

There remained great restlessness between the convulsive seizures, but I could not discover that there was loss of consciousness at any time. Ten minutes after the first dose I administered a second dose (twenty-five grains) of chloral. There appeared about this time great irritability of the bladder, for which she had to be assisted to the night vessel every fifteen or twenty minutes, for the next hour, and less frequently for the next twenty-four hours. The quantity of

urine passed, I believe, was greater than normal. During the last of the next fifteen minutes the interval between the convulsions would occasionally be greater, when it would sometimes be terminated by a more violent surge forward than the one preceding it. I now administered a third dose (twenty-five grains) of chloral.

Twenty minutes after the third dose, and forty-five minutes after the first was taken, general muscular tremors had taken the place of the emprosthotonos to a great extent, the latter not so violent when they did recur, when I administered a fourth dose (twenty-five grains) of chloral. In a few minutes, three or four, after the fourth dose was taken the patient became quiet, and apparently asleep, though occasionally there would be a general muscular tremor, when she would open her eyes for an instant. I then left the patient and returned at 4 A.M., on the 23d, when I found that she had rested as when I left her for about an hour, then was aroused by an emprosthotonic spasm, though not so violent as heretofore; and since, for more than two hours, she had had four or five such, and perhaps as many general tremors. About three hours after the fourth, I now gave her a fifth (twenty-five grains) and last dose of chloral, and left until 9 A.M., when I learned that she had fallen asleep a few minutes after the last dose was administered, and slept for an hour and a-half, and since, there had been no violent tetanic seizures; but frequent general muscular tremors, which recurred for two or three days, gradually growing less in violence and frequency. Owing to the soreness, stiffness and twitching of the muscles, she could neither stand nor walk without assistance for twenty-four hours. I now learned that the patient was color-blind; all objects appeared to her a yellowish-brown color, and it was not until the 25th, that the color-sight returned entirely.

The patient was more communicative now, having given up, for the present, the idea of taking her life. She gave me a vial containing strychnia in crystals, from which some time during the day of the 22d she had taken, as near as she could judge, one-third of the quantity it then held, concealed it about her person until the aforesaid occasion, when she swallowed it. The messenger told me that then she attempted to take a drink of water, but he prevented her from drinking much. I carefully weighed the remaining contents of the vial, and there was seven grains and a small fraction. There were no remedies administered save those mentioned.

Liegeois,* from a series of experiments on animals, concludes that chloral is of great service in antagonizing the effects of strychnia.

Bennet,† from his experiments, states that strychnia is of but little service in chloral poisoning, but finds chloral has greater antagonistic powers over strychnia.

Dr. Angus MacDonald has used chloral successfully in a case of strychnia poisoning.

In a case of strychnia poisoning in a girl of sixteen, Rivine,‡ a German practitioner, has found that 40 grains of potassium bromide and 10.20 grains of chloral hydrate were of great use, while 120 grains of potassium bromide or 40 grains of hydrate of chloral are necessary by themselves. He therefore recommends the combination of the two remedies in the treatment of cases of poisoning by strychnia. To test this theory, his pupil, Hessler, has carried out certain experiments on rabbits. For this purpose Hessler has investigated the mode of action of potassium bromide on the sleep produced by chloral hydrate. He finds that the simultaneous administration of the former drug does not appreciably prolong this sleep. That sensation and reflex irritability are never completely abolished. That the danger of a fatal termination would not be diminished in narcosis produced by the administration of four-fifths of the minimum lethal dose of chloral hydrate with the addition of potassium bromide in a small dose (about one-third of the lethal amount). In ten cases of the minimal lethal doses of strychnia, the method advocated by Rivine was not of more use than the simple chloral treatment; by both methods the tetanus which threatened life was allayed, and consequently life was prolonged. The duration and intensity of the attack were lessened to the greatest extent when the chloral mixture was given. When the minimal lethal dose of chloral hydrate was not exceeded, a sudden diminution in the frequency of respiration, and death from chloral poisoning occasionally occurred. The ultimate conclusion to which the experiments have led is that the simple treatment of acute strychnia poisoning by means of chloral hydrate is decidedly superior to the combined method proposed by Rivine.

* *Gaz. des Hôpitaux*, 1870, p. 191.

† *British Med. Jour.*, 1871. See, also, Article.

‡ *Practitioner, Pacific Med. and Surg. Jour.*, Jan., 1880.

—Much complaint is made of the bad air in ferry boats and cars, during this cold winter weather. Proper modes of ventilating these conveyances are still desiderata.

A CASE OF HERNIOTOMY.

BY JAMES MACFIE, M.D., C.M.,

Of Fort Covington, New York.

The susceptibility of the peritoneum to take on inflammatory action when injured has rendered all operations involving parts covered by that membrane extremely hazardous. Hence, surgeons have been always timid about operations involving a solution of continuity of that membrane. While it is undeniably true that operations upon the abdomen frequently result in peritonitis, it is no less the fact that operations such as ovariectomy, in which extensive adhesions have been broken down and large portions of the serous membrane of the abdomen wounded, have resulted, not only favorably, but without any marked symptom of peritonitis.

Some writers have maintained that the frequent tapplings to which the cyst has been subjected and the pressure caused by the size and weight of the tumor, have rendered the peritoneum less liable to inflammation, and have, in short, established a sort of toleration of rough handling on the part of that delicate structure, and have thereby rendered safe injuries which in the healthy subject would have ended almost inevitably in a very serious if not fatal inflammation.

May it not be also that the same kind of toleration is established in the coverings of old herniæ, which have been frequently returned by taxis, either at the hands of a physician, or of the patient himself? I have been unable to find where any author has instituted any comparison between cases of herniotomy, such as have been published, with statistics on the difference in the fatal results between cases of amputation from disease and from injury; such statistics, could they be gotten, would be not only of great interest, but also of great value.

The case to which I desire to call the attention of your readers has been of very great interest to me, on account of the very rough treatment which the protrusion received from the patient himself, the peculiar circumstances of the patient, and the very favorable progress and termination of the case.

Alexander F. McR., a stout built Scotchman, of middle age, was married on the 4th of October, 1880. On the 10th, six days later, a hernia which had troubled him at times for many years came down, and McR. found himself unable to reduce it. However, as he had always succeeded in reducing after a time, he was not very much alarmed, but continued to use the means

he had formerly found successful, till Tuesday evening, when I saw him, about 10 o'clock.

Found a right scrotal hernia, very large, and from the amount of manipulation to which it had been subjected very tender, and showing an ecchymosed appearance throughout. In addition to the local lesion, were the ordinary symptoms of strangulated hernia, to wit, an anxious, pinched and haggard appearance, with gulping, spasmodic vomiting. So great was the tenderness that before attempting taxis I applied hot opiated fomentations over the swelling for about an hour, and on attempting to reduce by taxis was enabled to reduce the size of the tumor quite materially. The vomiting also ceased and he expressed himself confident of completing the reduction in due time by continuing the application of the fomentations. Having another patient, whom I could not leave for any length of time, I left, with the understanding that I was to be recalled on the recurrence of the symptoms before mentioned, or on his failure to complete the reduction of the bowel. A messenger came for me about 1 P.M., who stated that his symptoms were no better, if not worse, than in the night. Taking with me my friend, Dr. Berry, of Westville, I visited him and found his condition to be about the same as on the previous night. Putting him thoroughly under the influence of chloroform we again tried taxis, but without success.

We were, of course, extremely desirous of reducing without operation. In view of his recent marriage, our inborn philanthropy and feelings of humanity would make us use every reasonable endeavor to spare the young bride the pain of seeing her liege lord thus prostrated, suffering and helpless. Having failed to reduce by taxis, I proceeded to operate in the usual manner.

On reaching the sac I found it bound down by deep adhesions, and on closer examination found that the patient, in his efforts to reduce, had actually ruptured the sac, and that this was the principal cause of the swelling in the lower part of the scrotum, it being infiltrated by the serous fluid from the abdominal cavity, which had thus found its way into the scrotum.

The sac was opened throughout and the bowel found to be of a dark purple color, but shining and resilient. It was returned to the abdominal cavity. The sac, which was quite firmly adherent, together with a small amount of omentum, was left in the wound, which was closed by sutures and dressed with a carbolic solution. He was given, every four hours, $\frac{1}{2}$ gr. of morph. sulph.

October 14. Appearance good. Haggard look gone. Slept well and flatus passed off freely.

A very little tenderness over the right iliac region. Temperature $99\frac{1}{2}$, pulse, 96. Wound looks well, but swelling in scrotum still great, and increasing.

Oct. 15th. Symptoms unchanged; indeed, from this time there was no rise of either pulse or temperature. The scrotal swelling increasing. Wound does not look so well.

Nothing would be gained by giving a presentation of the case from day to day. As already stated, the pulse and temperature remained constantly below 100. The local symptoms, however, were not so agreeable, either to the patient or myself. The serum infiltrated into the scrotum produced an abscess, which occasioned the patient a good deal of anxiety, and discharged very freely. The portion of sac left in the wound sloughed out, after which the wound went on steadily healing, and the scrotum also regained its normal dimensions, till, to-day, Nov. 27th, when I saw him, the wound was nicely healed, and he was able to walk about quite extensively. In fact, I met him walking about three miles from home.

With regard to the operation there is nothing special to note, but the case seems to me an interesting one in view of the force used, which was sufficient to rupture the sac, and after the operation the sloughing out of the sac; and notwithstanding such severe usage to the peritoneum before, and so grave lesions after, there was no notable rise of either pulse or temperature. As to the marriage: was this severe hernial attack *propter hoc*, or was it only *post hoc*?

DIFFUSED TRAUMATIC ANEURISM OF THE FEMUR, WITH OPERATION.

BY W. H. HAWKINS, M.D.,
Of Rocky Comfort, Ark.

On the night of July 19th, 1877, was called to see R. L. N., colored, aged 14. Reached him at 11 P.M., and found him suffering from the effects of a gunshot wound of both legs and one thigh. The boy had been out with other boys on a hunt, and the dogs having "treed a coon," this youngster climbed up the tree to shake the coon out, when his companion below became anxious, and fired the gun at the coon, the shot taking effect in the person of the boy as above stated, to wit:—

Four shot, variety known as "duck shot," entered the outer aspect of the left leg, and passed, superficially and obliquely, upward and inward, being found beneath the cuticle at the inner and lower third of the thigh, were taken

out. My attention was now directed to the right leg and thigh, and six of these shot were found to have penetrated the posterior and inner portion of the right leg and thigh, to wit: Two a little to the left of the outer border of the head of the gastrocnemius, and passed upward and obliquely outward in front of patella, and were extracted. Two entered the inner margin of the popliteal space, and two along the border of the Sartorius. These four passed obliquely upward, through the fleshy portion of the thigh, and were not extracted. It was noticed next morning that the right thigh was swollen and hot. Morphia, to allay pain, absolute rest, with legs and thigh elevated, with cold applications and liquid food, were ordered.

July 20th, 9 A.M. Found boy doing well. No increase in size of right thigh.

23d, 9 A.M. Doing well, thigh diminished in size; slept well.

27th, 9 A.M. Still improving, thigh less.

August 1st, 9 A.M. Improving, thigh less.

August 26th. Parents brought boy to my residence in a road wagon; said he had been walking about; that shortly after he had commenced to walk his thigh began to pain him and had swollen larger than at first.

Upon a minute examination found the thigh a little red and inflamed; ordered acetate lead and laudanum solution, and that he be carried home and not allowed to walk about.

On the 9th of September, 3 P.M., saw my patient and found he had not been doing well; complaining of great pain in the thigh, which had steadily and gradually enlarged. The enlargement was not uniform, but the greatest prominence occupied the muscles on the posterior portion, about the middle.

The parents had supposed the swelling to be what they termed a "rising," and had poulticed. Ordered a re-application of lead and laudanum, and instructed them when they thought the "rising" should be opened to send for me, and this they did on the morning of the 14th.

Dr. Alexander saw the case with me. After examining it we concluded to explore, before laying open the swelling. No pus was found. We then carefully divided the cuticle and exposed a blood clot. As we were not prepared for the emergency, a tourniquet was placed in position over the femoral artery, and the parents instructed how to act in the event bleeding should take place from the cut surface. The evening having been far spent, we left, but early next morning a messenger came for us. We found dark, grumous blood oozing from the opening.

The swelling had pointed, and presented a soft, fluctuating tumor, the size of an ordinary hickory nut, between the sheaths of quadriceps femoris and vastus externus, but no rhythm could be heard in it. A lancet was boldly pushed into this prominence, when arterial blood escaped, with regular rhythm.

We now knew we had an extensive diffused traumatic aneurism to deal with, and the time had come to act. The tourniquet was turned upon the femoral artery, a probe inserted into the posterior opening, and moved in every direction. It was put into the more recent opening with like result. The muscles had been greatly destroyed. The parents were notified of what would have to be done, and that in all probability the patient might die on the table. They readily consented to the operation.

He was chloroformed. Dr. Alexander took charge of the femoral artery. We had but little sound tissue at our command for flaps; operated by the circular method, through the upper third, as high up as the stump could be made without interfering with the perineum. The arteries were admirably controlled, and no blood of consequence was lost. With great care in fashioning the stump, enough skin was obtained to cover the end of the bone. After securing the arteries, the stump was left open to glaze. Closed the wound with carbolized interrupted sutures, and anointed it with carbolized oil. The sutures were supported by the usual adhesive strips. Over the whole was placed cloths saturated with carbolized water, to be constantly renewed.

The wound healed by first intention, excepting over the bone, where there was too great pressure, owing to the peculiarity of the operation, viz: the muscles having been cut through at too much of a right angle.

On October 1st the patient was discharged with a good, sound, and nicely rounded stump.

Remarks.—There was nothing unusual about the operation *per se*, but I report it in full that I may call attention to the great care we should exercise in the management of such cases.

From July 19th to Aug. 26th nothing was suspected of a serious nature, but on that day I began to suspect the possibility of having an aneurism, "traumatic." I suspected it from the fact that as long as the boy was kept confined there had been no increase in the swelling of the thigh, but as soon as he was permitted to get up, the limb began to swell rapidly, and to show marked symptoms of inflammation. The parents said they thought it was owing to a fall he had received, and that it was a "rising," from the

shots left in the leg; but I suspected otherwise, and hence the call for counsel and the careful exploration on the 14th of September, nineteen days after I first suspected aneurism.

By permission of parents, we carried the limb home, and Dr. Alexander made a careful dissection of it.

I herewith append the doctor's report:—

"In dissecting the amputated limb, I proceeded as usual, removing the integument, fascia, etc., and laying back the muscles. Upon removing the Sartorius muscle and the dense fibrous band extending from the vastus internus to the adductor muscles, a large clot, as much or more than would fill both hands, was discovered. After carefully removing it, a long straw was introduced into the open end of the femoral and profunda arteries, and the straw came out of each, nearly opposite where the profunda passes under the superficial femoral; so that one shot might have wounded both arteries. The opening was very small in each. I suppose the clot acted as a ligature, so as to prevent a rapid flow of blood, but allowed a constant oozing. The treatment also had a tendency to prevent a rapid flow. The wounds in the arteries were in the middle third, and the clot filled the entire third of the thigh."

HOSPITAL REPORTS.

PENNSYLVANIA HOSPITAL.

SERVICE OF DR. JAMES H. HUTCHINSON.

REPORTED BY GEORGE F. SOWERS, M.D.

GENTLEMEN:—I propose, this morning, to consider with you some cases of liver disease. It is not an uncommon occurrence in the practice of medicine for the practitioner to come in contact with certain diseases which, while they bear so close a relationship to each other, in both their symptomatology and prognosis, as to have been classed under one and the same grand head or name, yet present pathologically or in some manner a number of points of difference. In illustration of this proposition, I shall begin my lecture by exhibiting to you the liver and certain other of the organs removed from the body of a patient who has recently died in my ward. The following is the history of the case:—

E. B., aged 48, a widow, and by occupation a charwoman, was admitted to the hospital November 2, 1880. Her family history was good, and she herself enjoyed general good health till the onset of the disease which carried her off; menstruation was performed regularly till two years ago, when the menopause occurred; she had eight children, two of whom are now living. In searching for the original cause of her illness, we elicited the fact that seven years ago she fell from a step-ladder, striking heavily on her right side. From the time of the receipt of this injury to the

time of her death the bladder seemed to be weak and irritable, the urine at times dribbling away, thus being a source of great annoyance to the patient. During the past summer she was weak and miserable, the appetite very poor, and a constant loss of flesh taking place; there was also present a great deal of pain in the small of the back. Nine days before her admission, after having been exposed to cold and wet, she was suddenly taken with purging and tenesmus, the bowels being, as she expressed it, drawn into knots, and the abdomen being very tender on pressure; the passages were sometimes milky and sometimes yellowish, and streaked occasionally with blood, and very frequent. (I may say here, however, that she has never passed any blood since coming into the hospital.)

The notes of her case, from the time of her admission to the wards up to the time of her death, read as follows: "Patient emaciated and weak, the skin and conjunctivæ yellowish in color. Tongue dry, coated with a white fur, and indented by the teeth; the skin very dry. She has a slight cough, there is dullness over the base of the left lung, a few râles are heard, with blowing respiration, crepitation, and bronchophony. The abdomen is very painful; the patient is unable to keep anything on her stomach; the bowels are loose, the passages being thin, yellowish, and frothy. Urine dribbles away, and is dark, cloudy, and alkaline in reaction, and contains an abundance of urates, but no albumen. Percussion during life showed that the liver extended three fingers' breadth below the arch of the ribs, and the liver dullness extended higher than normal; over its front surface no distinct nodules could be felt, but low down in the right lumbar region there was felt what appeared to be a nodular mass about the size of the fist. There was tenderness on pressure over the whole of the liver, but the patient made no complaint of lancinating pains, either in the hepatic region or elsewhere.

Before proceeding to discuss the pathological appearances, etc., I will speak of the diagnosis, prognosis, and treatment of the case. Taking into account the fact of tenderness over the liver, associated with the excessive diarrhoea, one would naturally assume that abscess of the liver was the disease with which we had to deal; the stools, however, I may here say, did not present a dysenteric appearance; further, there was not at any time any fluctuation present, nor was there any attempt at pointing, as we should expect if an abscess were present. Finding the liver enlarged and the nodular mass present in the right flank of the organ, I was tempted at first to conclude that I had to deal with cancer of the liver; but this conclusion I did not feel warranted to adopt positively, on account of the following considerations, namely: That though there was jaundice present, yet it was not of that intense character which, if the symptom is present at all, is apt to be associated with the other symptoms of this disease; although the disease had lasted for some months, the organ was not enlarged to that extent which it would have presented had cancer been at the root of the trouble; neither was the sharp pain of malignant disease present, so that, as I say, I was not able

to convince myself that cancer was the disease to be contended with. There is a rare disease known as hypertrophic cirrhosis, with icterus, and I think that my patient fell a victim to this trouble; it is a form of cirrhosis not often seen, in which the contractile or retrograde changes of ordinary cirrhosis are not present; the hypertrophic changes seem alone to predominate; like ordinary cirrhosis its treatment is unsatisfactory and its prognosis unfavorable.

On referring back to the notes of the case I find that on her admission she was ordered pulverized ipecac, grain xx twice a day, and opium suppositories, to check the diarrhoea; liq. calcis, whisky and milk were employed, to allay the vomiting and to stimulate and nourish the patient. Being placed on this regimen we find the notes continued as follows: November 6. Diarrhoea somewhat checked, less vomiting; patient has been taking kaikanum, grt. xv, enemata, $\frac{1}{2}$ of a grain of opium and 1 grain of tannic acid, every 3 hours.

November 13. Tongue much the same; more jaundice present; the liver extends to within one inch of the umbilicus. Has not had any diarrhoea or sick stomach for several days; lungs resonant; tenderness still present over liver.

November 16. Patient weaker and delirious; more emaciated; slight vomiting again present. She yesterday had a formed passage; several bed sores have formed, and abdomen is very tender.

November 17. Subsultus present; fast becoming weaker; ordered turpentine, grt. x, three times a day.

November 21. Unable to swallow.

November 22. Died, about 5 a.m.

I here show you the post-mortem appearances of the case, and shall read you extracts from the notes of the pathologist of the hospital.

The examination was made nine and a half hours after death, rigor mortis being present. The left lung, over which you remember there was dullness, is bound down by old pleuritic adhesions, there being no effusion present; on the right side the same appearance is presented. Both lungs are emphysematous and full of small nodules, these being both soft and hard, those in the left lung being somewhat more coalesced; there is some gray hepatization present, and the condition known as chronic catarrhal pneumonia is well shown. The glands at the root of the lung are enlarged and calcareous. The heart, arrested in systole, presents a chicken-fat clot in its right cavity, black clot and some fluid blood being found in the left auricle; the valves are normal; in the great vessels going off from the heart ante-mortem clots were found. The weight of the organ is eight ounces. The left kidney is irregular in shape and granular in appearance; its capsule is more adherent than normal, and it weighs about $4\frac{1}{2}$ ounces. The right kidney presents much the same appearance as the left, but weighs only three ounces. In some of these cases I have seen the kidney weigh but seven drachms. The spleen is enlarged, and shows evidence of a chronic capsulitis, it weighs $6\frac{1}{2}$ ozs. The pyloric end of the stomach is contracted. The colon presents in its course a number of ulcers, its mucous membrane being softened and detached in places; at the same time the tube

does not present the pathological appearances of dysentery. The most interesting organ yet remains for discussion, I refer to the liver, whose weight is four pounds four ounces, and whose fibrous tissue is greatly increased; the organ is enlarged, thickened, mottled, nodulated, and presents a nutmeg appearance; on pressing my thumb into its substance I find it to be hard and resisting; its capsule is adherent; the duct is perfectly patulous, but during life was obstructed by the enlarged glands in the fissure of the liver pressing upon it. The mesenteric glands are, as you see, greatly enlarged. The small intestines are inflamed, the mucous membrane being swollen and peeling off in places.

I have attempted to give you a description of this disease, in which, contrary to what occurs in the ordinary forms of cirrhosis, contraction never or rarely takes place. The hypertrophy continues, usually, as long as the patient lives; although I may mention here that hypertrophy of the liver is frequently observed in the first stage of the more ordinary form of cirrhosis, which we shall now discuss, as presented in the case of E. W., now before you. I shall give you, first, the history of the case as taken from the hospital case book. She is a widow, and a housekeeper, aged forty-two, and was admitted into the wards November 15th, 1880. Her father and brother died of phthisis, her mother of dropsy; she herself has been generally strong and healthy. Nine years ago she had inflammatory rheumatism, for which she was treated in this hospital; neither dyspnoea nor heart trouble of any kind followed this attack, and she has had no sickness since. She has never had any children, and menstruated regularly till nine months ago, when the menopause occurred; she presents no specific history. She claims to be temperate, but this we know to be questionable, as she has twice presented herself at the gate of the institution under the influence of liquor. About three weeks ago she got wet and cold; about a week after she noticed that her abdomen was swollen and painful, and that she had lost her appetite. A week previous to her admission to the hospital her feet commenced to swell, her abdomen being very much swollen and very painful at this time; her stomach rejected nearly everything swallowed; there was no headache nor pain in the back present; at and after the onset of the swelling of the feet she ceased to pass urine in any quantity; further, at the time spoken of jaundice was present.

Upon admission, the patient is spoken of as being anæmic, and slightly jaundiced; the abdomen is distended, tense, and very sensitive, the veins of the abdomen are decidedly enlarged, the lines of dullness over the abdomen shift with the position assumed, thus showing the presence of ascites; the liver, on percussion, appears rather contracted. Over the middle of the right lung posteriorly some friction sounds are heard; percussion elicits more or less dullness; in the left lung a few rales are present. A murmur is heard over the apex of the heart, and with the first sound there is some friction associated. Urine acid, dark, and contains urates and bile, though no albumen. She was ordered at once mist. Basham, half an ounce every three hours, and

the infusion of digitalis, one drachm at the same intervals; the bowels being constipated she was directed to have an enemata.

November 17. Sounds over the heart more marked, and bear still more of a resemblance to friction sounds. As she was weak, she was ordered, to-day, four ounces of gin.

November 18. To-day no friction or murmur of any kind could be heard over the heart, but there was some increase in the pericardial dullness. The abdomen painful. The gin does not seem to agree with her, as it makes her sick at the stomach. Posteriorly, over the base of the right lung, there is dullness; respiration is bronchial and distant, fremitus diminished. Instead of gin, whisky was administered, and an ointment of equal parts of belladonna and iodine was applied over the abdomen.

November 19. Passes more water and abdomen less tense.

November 20. Dullness over spleen appears increased; fremitus is increased and bronchial breathing is more marked over the lower part of the right lung. She complains of bleeding piles, which give her a great deal of uneasiness, and for these five grains of tannic acid and $\frac{1}{2}$ gr. of opium in suppositories is ordered.

November 22. Abdomen less tense, though still tender. She looks decidedly better. There has been no return of the friction murmur, and there is less sick stomach. As I look at her to-day I find that she is less jaundiced than she has been heretofore. This symptom is more marked and noticeable in the eyes than in the skin; you will notice that the conjunctivæ present a decidedly yellowish discoloration. At times we have a dirty discoloration of the skin, somewhat resembling jaundice, present in chlorosis and anæmia, but in these latter disorders the conjunctivæ usually present a peculiar pearly whiteness; the jaundiced condition of the skin can best be observed by making decided pressure upon the forehead, the blood being thus squeezed out, the integument presents a peculiar parchment-like yellowness; now you must not in any case regard jaundice as a disease, it is simply the expression or symptom of some morbid action taking place in the economy.

Upon looking at the abdomen we find it enlarged, and its integument deeply pigmented; on the right side, over the locality of the liver, the superficial veins are very prominent, and there probably exists in these vessels a reversed current; the portal circulation being interfered with, the superficial vessels must assume an unusually large share in the function of circulating the blood. At first, palpation of the abdomen gave exquisite pain, but I can now exert a good deal of force without eliciting any unusual sensation; upon palpation in the neighborhood of the liver I can discover no enlargement whatever; in fact, on the contrary, I find that the lower edge of the organ occupies a much higher position than it normally should. Fluctuation, while present, is not so marked as is generally the case in disease of the character under consideration; upon tapping on the abdomen there is a distinct wave propagated from one hand to the other, which wave is not propagated by the abdominal walls, as can be proved by letting an assistant

place his hand upon the abdomen, in the line of the umbilicus, and then palpating. This, of course, prevents the transmission of a wave by the abdominal walls, but does not prevent its transmission through liquid contained in the abdominal cavity.

Again, by placing the patient in different positions, I find that the lines of dullness vary or shift, the dullness being always present in the most dependent position; thus, if the patient be placed on her hands and knees, the dullness is found in the neighborhood of the umbilicus; if placed upon her back or on her feet, the line again shifts, due, partially, to the different positions assumed by the bowels, their presence always being made manifest by more or less resonance; now, in ovarian dropsies the dullness is more stable, being bound down, as it were, it is not able to shift around from one locality to another, and, as a general rule, occupies the front of the abdominal cavity.

By these different examinations, I demonstrate that there is a peritoneal effusion present. Now, we may have other diseases than cirrhosis producing an ascites; thus cancer of the liver and peri-hepatitis may give rise to the symptom. But in all cases of dropsy dependent on liver disease the cause of the ascites is the same, namely, the compression of the portal vein and its branches, the connective tissue development in cirrhosis taking the place of the true liver tissue. When the organ begins to contract, an undue amount of pressure is exerted upon the veins; the blood being dammed back must thus relieve itself by an effusion into the abdominal cavity; or else there takes place a hemorrhage from the bowels, the delicate vessels of the intestines, unable to stand the pressure exerted, rupturing and allowing the extravasation of their thin contents.

In this case relief has been afforded to the engorged circulation by the formation of bleeding piles, and it is due to this fact that we have so little ascites present. A cancerous nodule pressing on the portal vein will produce a very marked ascites; in peri-hepatitis, also, we may and do have an effusion taking place, though this is within the capsule of the liver. If, however, the ascites present in this case were due to the presence of malignant disease, the hepatic dullness, instead of being decreased as it is, would extend over an enlarged area; we have here but little or no peri-hepatitis. Owing to the effusion, the liver is floated up very high, and probably less of its surface presents to the percussing finger than normally. The abdomen, on pressure, is tender; so I think that, perhaps, we may have here to deal with a certain amount of peritonitis (as well as cirrhosis) localized in different portions of the abdomen, but especially marked in the region of the liver; this is not an uncommon accompaniment of liver cirrhosis. I am inclined to this peritonitis theory from the fact that in this case two other serous membranes have been inflamed, as evidenced by the pleural and pericardial friction sounds; the dullness posteriorly, the enlargement discoverable on percussion in the præcordial region, and the presence of a few râles, all go to sustain me in this view. As to the cause of all this trouble in the liver there can be no question; she denies being a drink-

ing woman, but I have had every evidence to the contrary; further, alcoholism we know to be the exciting cause and foundation of nearly all cirrhoses of the abdominal viscera; true, it may, perhaps, occur idiopathically, but it is then an exception to a well-proved rule. The prognosis of these cases is unfavorable, both as to life and recovery. I do not think that after structural changes of any kind have taken place in the liver there can be any remedy; the only thing to be done is to relieve the most urgent symptoms, and make the patient comfortable. The pathology consists, first, in an inflammatory condition taking place in the liver structure; this is followed by the appearance of connective tissue bands, substituting the true liver tissue; these bands, after some little time, beginning to contract, result in a shrinking of the normal size of the organ, which, in the first or inflammatory stage, seems to be hypertrophied.

As to the relief of symptoms, and the general treatment of these cases. If the breathing was greatly interfered with it might be advisable to tap the patient, and thus remove the water; but this proceeding is not entirely free from danger, as, instead of a localized, we might have a dangerous general peritonitis set up. If, however, the symptoms were urgent, which in this case they are not, the operation would be justifiable. If necessary, the bowels and kidneys may be called upon to perform extra duty, for the purpose of removing the effusion; one drachm of the infusing of digitalis, and a tablespoonful of Basham's mixture, every three hours, have produced very good effects in this case; the objection to the use of purgatives is that they produce too much of a drain on the system; elaterium, while it would rapidly remove the ascites, would at the same time further weaken our already debilitated patient. The diet should be light, easily digested, and nourishing; the patient being permitted, when possible, a judicious amount of out-door exercise.

MEDICAL SOCIETIES.

ACADEMY OF MEDICINE AND SURGERY OF KENTUCKY.

PROCEEDINGS OF THE MEETING HELD DECEMBER 2, 1883.

REPORTED BY A. H. KELCH, M.D.

Ophthalmic Pathology.

Under the call for "presentation of pathological specimens," Dr. D. S. Reynolds exhibited several eyes, and in presenting them made the following remarks:—

There is an interesting history connected with these specimens. This is the skeleton remains of an eye the vision of which had been lost many years ago, from a neglected inflammation of the iris. It is plainly perceptible, from the mass before you, that the globe must have been not less than two inches in diameter. About five years ago the last perception of light disappeared. The unfortunate subject from whom this specimen was taken was about 38 years of age, and had been living in a malarious

district in the southern portion of this State. He suffered from an inflammation of the iris, which, as I remarked before, was neglected, until finally it involved the ciliary body and extended its ravages to the choroid. Dropsical effusion then took place, distending the globe so much as to make serious pressure upon the structures between it and the orbit and to produce such irritant effects upon the brain as to cause epilepsy, for which he had been ineffectually treated by prominent physicians and quacks in the cities of St. Louis, Cincinnati, Philadelphia and New York, within the last five years. He had been given nitrate of silver, bromide of potassium, atropia, nitrite of amyl, and all kinds of treatment known to the profession.

In the last two or three months previous to his visit to this city he had suffered as many as three attacks per month; and, probably on account of the excitement induced by the thought of an operation, after his arrival here had two attacks in twenty hours.

I enucleated the eye which I here present, and he has not had a particle of headache since. It is now three weeks since the operation was performed, and up to this time he has had no return of the epileptic seizures.

He is a man well nourished and of great muscular power, and had never been sick until about eight years ago, when he had what he considers an attack of neuralgia in the right eye. This was followed by the slowly collecting effusion, the pain becoming more of an aching character, often extending from the temple to the occiput. Five years ago he had an attack in the left eye, of a similar character, and shortly after that he lost the sight in this eye. I report this case to show that although the amount of pain and distention was something unusual, the nervous system was so influenced as to cause epilepsy. It is not common to see the ball so distended as to be almost immovable. In this case it was necessary for me to cut into the distended walls of the globe before the muscular and connective tissue attachments surrounding the ball could be severed. There was not sufficient room to seize the muscles between the distended globe and the orbit. The remaining eye is quite free from irritation, and in consequence of that fact, it was allowed to remain.

Specimen 2.—Here is an eye that was taken from a young lady two months ago. The eye had been injured in infancy, by a puncture with a pair of scissors. The remarkable feature of this case is that, although the puncture was made through the alero-corneal junction and ciliary body, and the eye shrunken to a mere stump, the young lady had gone to school and obtained an education, and had never suffered any inconvenience nor discomfort in the use of the fellow eye.

Here was a puncture inflicted when she was but three years of age, and she is now nineteen, the shrunken globe remaining all this time without causing serious pain or other morbid manifestation in the opposite eye. It is almost universally believed by specialists that an eye destroyed by a punctured wound of the ciliary body is certain, if allowed to remain, to set up what is known as sympathetic irritation in the fellow

eye, which will lead to fatal results, so far as the vision is concerned. Mr. George Lawson, in the reports of the Royal London Ophthalmic Hospital for 1872 or '73, records the case of a man who had lost an eye from injury; the globe underwent atrophic changes, such as are shown in this specimen, and the man had gone on about forty-two years without suffering any inconvenience in the other eye, when suddenly a sympathetic irritation became manifest in the opposite eye, which soon began to grow dim, and in a few weeks he was admitted to the hospital, with bare perception of light. Though the lost eye was, on his admission to the hospital, removed, the opposite one went on to complete blindness, and Mr. Lawson was sure the one eye could have been saved by the timely removal of the blind eye.

Specimen 3.—This is the eye of a gentleman only twenty-eight years of age; it was destroyed by the kick of a mule, eight months before he came to have it removed. The calk of the shoe worn by the mule struck the man on the temporal margin of the cornea, and ruptured it. An intelligent gentleman, who was somewhat acquainted with the structure of the eye, told him there was a rent just within the cornea, on the temporal side. In this specimen, as you see, the whole cornea has been removed by absorption, and the atrophic changes which followed by continuity of structure, producing contraction of the whole globe. In September the eye became tender and painful, but it seemed to get well again, and about the middle of October it was again affected, and this time the sound eye grew sensitive and watery, which led him to consult a physician, who told him to consult a specialist. This attack subsiding, he waited another week, when he was again attacked, and with corresponding dimness and morbid sensibility to light in the fellow eye.

When he came I removed the eye, although there was considerable irritation at the time. The other eye remained a little sensitive to light, and was somewhat dim for two weeks. After that time a test of the vision revealed about the normal acuity. About six weeks after the removal of the eye he came back to get an artificial eye; and, though the structures seemed to have regained their normal condition, all signs of irritation having disappeared, the instant an artificial eye was introduced he suffered pain, and lachrymation of the other eye. I advised him to return home for the present and return in two months.

Specimen 4.—This eye has a much sadder history connected with it. The young gentleman to whom it belonged had the misfortune to contract a gonorrhoea on the 4th of July. About the middle of the month he discovered he had something the matter, but it did not occur to him at the time that it was due to the exposure on the 4th, and he paid little attention to it. He was spending his summer vacation in a general frolic, and came here to Louisville to look around. While here he came to my office to deliver a message from a physician in the neighborhood where he lives. He told me he believed he had gonorrhoea. I sent him to a medical friend and soon had forgotten all about him. About ten days afterward his physician called and told me he

believed the young gentleman had lost one of his eyes, and he desired me to go and see him. I found the right cornea had sloughed out *en masse*, and the left was becoming hazy. Careful attention succeeded in saving the left eye, but the right affords the specimen before you. This shows the importance of early attention to gonorrhoeal ophthalmia. There is an important lesson to be derived from a study of these cases. They show, in the first place, that though an eye be absolutely blind, it may give rise to so much irritation as to cause epilepsy in a strong and vigorous man. Another specimen of an eye destroyed in a manner most likely to create serious trouble, is followed by no inconvenience or discomfort in the use of the opposite eye. Here is another case with only the cornea lacerated, no other part damaged, that gets well and in a few weeks after recovery he begins to suffer recurrent attacks of inflammation in it, which causes sensibility to light in the opposite eye, and the patient is threatened with a sympathetic ophthalmia.

Another, a young man in good health, contracts a gonorrhoeal inflammation, and, failing to give prompt attention to it, remains in the obscurity of a boarding-house until the eye sloughs nearly out, and the remainder must be removed.

To-morrow will be three weeks since three gentlemen, on the Ash Creek Road, were out shooting birds. While they were considerably separated, a covey rose, and the gentleman at the extreme left fired toward the right, and a shot struck one of his companions in the right eye, passing through the cartilaginous portion of the upper lid and through the sclero-corneal junction, directly in the vertical meridian. He came to see me in less than an hour after the receipt of the injury. The anterior chamber was filled with blood, and there was a large rupture at the point indicated, showing that the shot had penetrated the globe. I gave him a purgative dose of calomel, and ordered a solution of atropia and morphia, and directed him to bathe the eye with cold water, and under no circumstances to cover it up. In a few days the wound healed and the blood disappeared. At present a normal condition of the aqueous chambers is present, except where the shot came through the wall above. Careful examination shows no detachment of the retina; the red reflex from the fundus may be seen all round, and the shot must be very near the ciliary body in the anterior and inferior portion of the globe. He has had but little pain in it up to this time, and, strangely enough, there has been no inflammation of the damaged iris except at the point where the shot entered. He was able to count my fingers yesterday with that eye; and while I have no hope of saving the vision, I have some hope of the shot being encysted and keeping quiet. If it does not, however, I propose, with his consent, to perform optico-ciliary neurotomy. It will probably save him what appears to be a good eye, which is much more convenient and better looking than any artificial eye can possibly be made.

Group, with Tracheotomy.

Dr. F. C. Wilson. I may mention two interesting cases I have met with in the last five days. Last Sunday, I was called to see

a little girl, eight years of age, who had been sick for two or three days, with what was thought to be croup. All the domestic remedies for such troubles had been tried, and when I saw her first she was breathing with great difficulty, both inspiration and expiration being labored. She had a muffled, croupy cough, and a temperature of $101\frac{1}{2}^{\circ}$, quick pulse and a tendency to cyanosis. I informed the parents at once that the child was very ill, as I felt satisfied it was a case of membranous croup. I ordered an emetic of turpeth mineral, and for the night five grains of Dover's powders, also, as a local application, cold compresses, to be frequently changed. I saw her again next morning at eleven. She had freely vomited, and had thrown up one or two little shreds of organized material, along with a considerable quantity of very tough mucus, and she was somewhat relieved. That night she rested easier until about six A.M., when there was much more obstruction, and a good deal of cyanosis. I administered oxygen, which restored the red color to her lips, and I then suggested to the family the necessity for tracheotomy, which met with great opposition, as I knew it would, the family being German. The next forenoon I called Dr. Oetlerlony in consultation, and we agreed at once, as to the diagnosis, and the only change in the treatment suggested was the addition of five-grain doses of carbonate of potash every half hour. In the afternoon the obstruction had increased, the respiratory murmur was feeble on both sides of the chest, and a whistling murmur was present, from the obstruction. I again suggested tracheotomy. They still refused.

At 9 P.M. she was worse, and at 9.30 her father came and said if I thought the operation could offer any hope, they would consent. I thought the hope then a forlorn one, but I went at once, and, with the assistance of a druggist in the neighborhood and what few instruments I had at hand, and what I could improvise, I determined to open the trachea and insert a tube.

I made an incision through the skin, and was delayed a good deal by the capillary hemorrhage. Finally, the trachea was opened, the lips of the wound separated, and the child breathed with comparative ease. I had suspicions, however, that the membrane extended below the point of incision, and these suspicions were confirmed by the introduction of the tube, which had to be immediately removed. I concluded to hold the edges apart, in order to let her breathe more easily, and I could distinctly see the yellowish-white membrane obstructing the trachea below the point of incision; but at no time did she breathe with that quiet ease which is noticeable in cases where the membrane does not extend below the point of incision. In this case it was merely temporary relief. I held the edges apart for three or four hours, when the necessity caused me to improvise a speculum, which I made out of a hair-pin. This I found to answer every purpose, but the child died at half-past four the next morning.

That afternoon I was called to see a little German boy, five years old, sick two days in the same way. I found his fingers and lips blue, obstruction in both inspiration and expiration, and the same kind of muffled cough noticed in the other case. I explained to the father the great danger the child was in. After prescribing an emetic of Turpeth mineral, I promised to see it again in the evening. Accordingly, at 8.30 I went out and found the child dying.

These were two fatal cases in the same day. I have met with twelve in all my experience, and of the twelve cases have succeeded in saving four. Two I saved, I believe, by the inhalation of oxygen gas, keeping the patient alive until the membrane was detached and expelled; in a third I attribute the relief to the inhalation of lactic acid, and in a fourth to the insufflation of pepsine, and inhalations of lime and bromide of potash and the carbolic acid spray, to which I attribute the most importance.

EDITORIAL DEPARTMENT.

PERISCOPE.

Artificial Respiration in Newborn Infants.

At a recent meeting of the Royal Medical and Chirurgical Society, Mr. F. H. Champneys read a paper to show the amount of respirable air furnished infants by the various methods of artificial respiration. The number of bodies experimented on was twenty-six; only such as had never breathed being used. Tracheotomy having been performed, a cannula was tied into the trachea, the cannula being connected by an India rubber tube with a V-tube filled with water, which thus registered inspiration and expiration by the rise and fall of the water, the results in the same body only being compared, and the highest effect

being the standard of comparison. The methods used were nine, viz: those of Marshall Hall, Howard, Silvester, Pacini, Bain, Schücking, Schüller, Schroeder, and Schultze. The conclusions were the following:—

1st. Since the position of equilibrium of a stillborn child's chest is one of absolute respiration, airlessness, or collapse, no method which depends on elastic recoil of the chest walls will introduce air into its lungs. The methods of Marshall Hall and Howard are useless as means of directly ventilating the lungs of stillborn children. 2d. Silvester's method, and its modifications by Pacini and Bain, introduce more air into the lungs than any other method. 3d. In using Silvester's method, the arms should be held above the elbows, and everted. 4th. In using Pacini's or Bain's method, the legs should

be fixed; the second half of Pacini's method, and Bain's second method, should not be employed, as the weight of a new-born child's body is insufficient counterpoise to the necessary traction. 5th. In using these two latter methods, the operator may face the subject, and lift the shoulders from below; by this means he is able to watch the child's countenance, and is able to introduce an equal quantity of air. 6th. Schücking's method is no improvement on Silvester's. 7th. Schüller's method is useless, and not free from risk. 8th. Schroeder's method is useless. 9th. Schultze's plan, although its power of ventilation is less than that of Silvester and its modifications, yet acts efficiently. 10th. In Schultze's method, the diaphragm does descend, though but slightly; its principal action, however, is on the thoracic walls, as in the Silvester group. 11th. In Schultze's method, it is important that the whole weight should rest (at the end of the inspiratory movement) on the index-fingers in the axillæ, and should not be distributed to the other fingers. 12th. The violence of the action of the method of Schultze is not in its favor. 13th. Opisthotonos always produces respiration by tension of the anterior body walls, and should be avoided. Behm's experiments, six in number, dealt with children truly stillborn in two cases only (one other having failed). His general conclusions spoke highly of Marshall Hall's and Howard's methods, which, however, in the two above cases were nearly or quite failures.

The Treatment of Typhoid Fever.

A debate at one of the London medical societies, recently reported, well illustrates the prevailing opinion on this topic across the water. Dr. Bristowe dealt with the subject under the heads of food, medicines, alcohol and baths. A milk diet was urged as of chief importance. Dr. Bristowe doubted if any remedies had direct effect in controlling hemorrhage. Alcohol was not necessary, except in a few cases, when it should be given for its stimulant effect. As to baths, he doubted their efficacy, and thought that if they were as valuable as statistics showed, their good effects should be obvious whenever they were tried. In two cases he had had, he thought fatal pulmonary congestion had been produced by the use of baths. He concluded his remarks by sketching the manner in which he himself would wish to be treated were he the subject of the fever. Dr. Broadbent, who followed, thought the diet should not be wholly restricted to milk, which it was important to give only as food, and not as a drink to relieve thirst, for diarrhœa was often produced by the undigested curds. Sometimes beef-tea set up diarrhœa. Besides correcting the diet when diarrhœa was present, he would use opium enemata. In cases of hemorrhage he gives large doses of opium to arrest peristalsis; ergot and turpentine were also useful. Opium was also of great value in the relief of tympanites. He described his attitude toward baths as one of gradually increasing confidence. Dr. Cayley read a letter from Dr. Brand, of Stettin, giving some remarkable statistics from the military hospitals of Germany in

favor of the bath treatment—a chief element in success being the adoption of the method at the very onset of the disease. This was possible in private practice and in military hospitals, but not in the civil hospitals, where patients do not seek admission until they are compelled to do so by the advance of the disease. In Germany it had been found possible to carry out the bath treatment in private practice. The treatment was certainly not a dangerous one. Dr. Norman Kerr made some remarks, in which he admitted the need of the medicinal use of alcohol in some cases of the disease. Dr. Collie said that of 100 cases seventy five would get well with simply good nursing, fifteen would die, and the remaining ten might or might not recover. Such was his experience, and he had abandoned the bath treatment, as not only useless but even dangerous. He could not put faith in continental statistics, and thought that many cases of mistaken diagnosis were included in them. Dr. Ord had certainly seen good effects from the use, not of cold but of slightly tepid baths in selected cases of high pyrexia, which he believed had a relative effect as well as a control over the whole morbid process of typhoid fever. Dr. Mahomed spoke in favor of the cold-bath treatment. He also mentioned a case of severe hemorrhage which he had recently successfully treated by transfusion.

The Effects of Varicocele on the Testicle.

At a meeting of the Clinical Society, of London, Mr. P. Gould described this subject:—

Two men were shown to the Society, each presenting a large left varicocele, with the testicle on the same side much smaller than its fellow, but retaining its usual firmness, outline and testicular sense. The one man, æt. eighteen, noticed the swelling in the scrotum accidentally, four or five months ago. The other, æt. seventeen, had noticed the varix for six or seven years. In neither case was there any pain or disturbance to be traced to the varicocele. Neither patient had suffered from inflammation of the testicle or any injury to the scrotum. They were both well made, robust, healthy-looking men. Mr. Gould quoted the views of Sir James Paget and Mr. Curling as illustrating the opposing doctrines on the question whether varicocele does or does not cause wasting of the testicle. After enumerating a list of authors who support Curling in his opinion that atrophy of the testicle does result from varicocele, he observed that many of the cases cited in support of this assertion must be excluded, on account of the traumatic origin of the varicocele; wherever there was a history of injury or inflammation it was impossible to say that the change in the testicle was not the direct result of such injury or inflammation. Again, cases where there was no mention made of the presence or absence of these conditions were also of doubtful value. With these reservations the alleged cases of atrophy were of three kinds. First, cases of arrested development of the testicle, illustrated by the cases shown. Second, cases of very slight lessening of the size of the testicle, said by many authors to be very common; a condition

difficult to be certain of. Mr. Gould had never seen the left testicle larger than the right—its normal relation—when there was a large varicocele on the same side. Third, cases of morbid and extreme softening and wasting of the gland. Although cases of this kind are recorded by Curling, Richter, Landouzy, and others, no mention has been made of the absence of previous injury or inflammation of the testicle, and they are not entirely free from doubt on that account. There is strong reason to think that varicocele may produce such wasting of the gland. Referring to the frequency of varicocele on the left side, Mr. Gould argued that neither the greater length of the spermatic vein on that side, nor its lying beneath the sigmoid flexure, nor mode of entrance into the left renal vein was sufficient explanation. It was maintained that the use of the valve at the mouth of the spermatic vein was to convert the direct opening into an oblique aperture, and by lessening its size caused the flow of blood over it to exert an aspirating effect. Many differences between varicocele and other external varices were pointed out, and the opinion was advanced that many cases of varicocele are nevroid in character; a primary abnormal development of the veins.

The Uterine Membrane in Menstruation.

In No. 13, *Centralblatt für Gynäkologie*, for the year 1880, Dr. Müricke, of Berlin, contributes a short paper on the much vexed question of the condition of the mucous membrane of the uterus during menstruation. The author remarks upon the extreme difficulty which an unprejudiced mind experiences in accepting the view that during menstruation the mucous membrane of the uterus is completely or partially lost, since menstruation, which every one allows to be a physiological process, is made in that way to play the part of a degenerative process, and thus becomes essentially pathological. The author ascribes the results obtained by former observers, who maintain the complete separation of the mucous membrane, to the fact that they had examined preparations which were not quite fresh, and holds that the changes which they saw and declared to be characteristic of menstruation were post-mortem changes. Though this sounds rather strongly, it is, the author maintains, correct, and he thinks that every one who is acquainted with the rapid destruction of mucous membranes after death will readily believe the statement, more especially when he knows how soft and swollen the mucous membrane is during the menstrual process. The method adopted by the author to obtain perfectly fresh preparations, which might withstand the strictest criticism, consisted in introducing a sharp curette into the uterus and removing large portions at will at different times. Thereby a large amount of material was obtained, taken during the different days of menstruation, or before and after its occurrence. In every one of these the epithelial covering was completely retained. In no situation was it even partially destroyed; in many places it was sprung over a small extent, being raised up on underlying blood extravasation, but still it adhered together, and cell for cell of the

loosened superincumbent portion was sharply outlined and easily to be recognized. These observations were found true on the fresh and on the prepared specimens. On the former no fatty degeneration could be recognized, even with the greatest willingness to detect it.

On the Occurrence of Albuminuria in Healthy Men.

Professor J. W. Runeberg, of Helsingfors (*Deutsches Archiv für Klinische Medizin*, Band 76, quoted in *London Medical Record*), reviews at length some of the principal contributions, which have appeared during the last few years, to the solution of the problem of the clinical significance of albuminuria. The observations of Leube, Ultzmann, Moxon, Dukes and Saundby have established the frequent occurrence of albuminuria in persons who do not present any other signs of kidney disease. A few years ago such cases of latent albuminuria were regarded as instances of granular kidney, but their frequency makes this improbable. Bull has suggested that the albuminuria indicated a Bright's diathesis or tendency to Bright's disease, and Johnson has stated that such cases, if not cured, pass on to organic kidney disease; but this can hardly be considered as finally settled. The transudation of albumen, according to Runeberg, depends upon an abnormal permeability of the walls of the glomeruli, and this permeability in its turn depends upon the blood pressure. As he has shown, the filtration of albumen through animal membrane is increased by low pressure and diminished by high pressure, so that the old dogma, that the amount of albumen is directly proportional to the pressure on the glomeruli, must be abandoned or reversed. It is well established that active muscular movements increase albuminuria, but this is probably due to the lowering of blood pressure in the glomeruli, a circumstance which is indicated by the diminished secretion of urine, and is supported by the physiological experiments of Ranke, which show that, owing to the large amount of blood flowing into the active muscles, the internal organs have their blood pressure lowered. Moreover, Bartels pointed out that in real cirrhosis the albuminuria is greater in the day than at night, which he attributed to the increased pressure due to the upright position.

Esmarch's Latest Improvements.

Professor Esmarch, in a recent address, translated in the *London Medical Record*, gives the latest improvements in his celebrated "bloodless" method of operating. He observed that it was now seven years since he brought under the notice of his colleagues his method of performing operations under the influence of artificial ischæmia. Since that time the great number of surgeons had tried this operative method, and there was reason to believe that some eminent and experienced persons who had employed it had abandoned it, wholly or in part, because they found that, after taking off the constricting band, the parenchymatous or secondary bleeding had been as abundant as with the old methods.

Esmarch regarded this as a fact to be regretted, for patients as well as for surgeons, since no one could deny the considerable advantages which ischæmia afforded during surgical proceedings. He asserted that the want of success attributed to ischæmia depended only upon the defective mode of employing it, and that the modifications which had been suggested on various sides were not of a character to reduce the number of failures. He had for several years continued to study the methods of obtaining bloodlessness during operations in his hospital practice, and of late years had succeeded in performing a great number of operations on the limbs without loss of blood, in the strictest sense of the word. He described his present mode of operating in three varieties of great operations performed on the limbs, in amputation, in resection, and in extraction of sequestra. In amputation, his rule was that, after performing the operation without loss of blood, he carefully tied all the vessels that were visible, but he did not immediately remove the constricting tube. He at once united the edges of the wound by the deep suture of Peltier, using catgut sutures. At the dependent part of the wound he placed a short drainage-tube, of material capable of absorption, and in cases of need caused it to emerge through an opening made in the skin. Finally, retentive dressing was then applied, and the limb was placed in a vertical position; then only was the compressing tube removed. The patient was carried to his bed, and so placed that, for half an hour afterwards, the stump remained directed upward and only at the end of that time was it laid horizontally. He had recently performed in this way twelve amputations—one of the forearm, one of the arm, nine of the leg, and a partial amputation of the foot—by Lisfranc's method.

In none of these cases did any consecutive hemorrhage occur; so much so that the dressing was left intact up to the fourteenth day, when it was removed. There was found only a narrow red streak stained with dry blood, corresponding to the cicatricial line. In resections he had, from 1873 to 1875, applied the dressing before the removal of the constricting tube, but he had observed secondary hemorrhages in consequence of insufficient compression; and he therefore abandoned this proceeding. From 1875 to 1878 he removed the tube before dressing, and performed the dressing only after having arrested all flow of blood. For the last two years, after having improved the mode of dressing, he had again endeavored to apply the dressing before removing the constricting tube, and he now proceeded in the following manner. After the operation, he tied the vessels which could be discovered. The edges of the wound were united by Peltier's suture, performed deeply with catgut, drains of absorbent material were introduced into the wound in a proper manner, and the final compressing bandage was applied. The whole limb was placed vertically, and the constricting tube was then removed. The limb in this position was secured on a splint with the aid of a bandage, and the patient was carried back in this position to bed; and not until half an hour afterwards was the limb placed in a more horizontal position. Since 1878 he had performed in this way fifty-six re-

sections of the knee, the elbow, the tibio-tarsal articulation, and the radio-carpal articulation. In no case had secondary hemorrhage or death occurred. In thirty-three cases the dressing was left in place for three or four weeks; the progress of the wound was absolutely antiseptic. In cases of gouging, or of extraction of sequestra, the dressing was performed in the manner indicated by Esmarch some years ago; that is to say, the excavations of the bones were solidly plugged at first with carbolized cotton, and the end covered with salicylic acid dressing, and the whole firmly bandaged before removing the constricting tube. In 148 cases operated upon in this manner secondary hemorrhage followed, which passed through the dressing and made it necessary to renew it. In some cases, the compression of the bandage produced sloughing of the skin. In spite of these accidents, healing took place by granulation without abundant suppuration, but somewhat slowly. After disinfection of the cavity of the bone, carefully made with a solution of carbolic acid and chloride of zinc, the edges were brought firmly together by a catgut suture, absorbent drainage-tubes were employed, and the tube was not taken off until after the completion of the dressing. This method had been applied twelve times, and always with success. In no case did the escape of blood occur to such an extent as to make it necessary to renew the dressing. The wounds remained antiseptic. In the cure obtained by the first intention, the blood-clot, which fitted the whole osseous excavation, became organized in the way often described by Lister, and with enormous advantage to the patient—in reference especially to the rapidity of cure. The same dressing was applied in the same manner in other operations of extirpation of tumors, stretching of nerves, etc.; and Esmarch believed that this mode of procedure might ultimately be applied to amputation of the thigh and exarticulation of the hip and shoulders.

REVIEWS AND BOOK NOTICES.

NOTES ON CURRENT MEDICAL LITERATURE.

—The *Pittsburgh Medical Journal* and the *International Journal of Medicine and Surgery* (New York City), are new ventures on the sea of medical journals, with the incoming year. Both are edited by a combination of medical men, whose names are a sufficient guarantee that honest work will be found in them. The last mentioned is a transformation of the *International Surgical Record*, and makes a specialty of translations.

—The Annual Report of the Board of Health of the City of Pittsburgh, for 1879, is a very well prepared document, with maps and plans. It has an interesting special report on an epidemic of typhoid fever which appeared in the city during the year, attributable to bad water, etc. The

committee also noted the prevalence of a disease simulating typhoid, but lacking the full character of that malady, a fact which has been observed elsewhere, and merits more attention than it has received. They say:—

We are inclined to the belief that simultaneously a large number of cases of illness occurred which we will, because of its lack of identity, and because of its similarity to typhoid fever, and finally, because we lack a more expressive or truthful term, designate as *pseudo-typhoid*. We believe these cases last mentioned may be honestly attributed to the use of the river water at that time, or to the use of water from wells which, while full of impurities derived from excreta, *i. e.*, cesspool sewage, yet lacked the presence of the specific typhoid germs.

Intestinal catarrh also prevailed.

—The Annual Address before the Alumni Society of the University of Pennsylvania was delivered, last spring, by Dr. Traill Green, and has appeared in pamphlet form. It was an able paper, full of thought and well worded. What he says of medical journals is most true, and we quote it:—

I doubt whether a number of any of them is ever read that does not furnish some useful hint to the practitioner who reads it; and in a consultation or an occasional conversation with a physician it is not difficult to determine whether he is in the habit of reading a medical journal, as much of treatment and the use of new remedies is learned from the journals before it is collected together in more permanent works.

—Dr. Boardman Reed, of Atlantic City, N. J., has given a condensed account of the merits of the climate of that part of the coast, in a recent reprint. He does not claim for it any special or peculiar powers, but only general hygienic advantages combined with accessibility. He observes:

After comparing my own experience with that of others, I am convinced that the atmosphere of Atlantic City in summer (perhaps also in winter, but I do not know) will prove especially beneficial in the large majority of cases of diseases of the respiratory organs, and that the very common opinion that the sea-coast is everywhere unsuitable for cases of phthisis has little foundation.

—Part XIII of Klein & Smith's "Atlas of Histology" treats of the outer and inner ear, the nasal mucous membrane, the spleen and ductless glands. This part completes the work, and a title-page, table of contents, list of plates, etc., are added. In taking leave of this work we wish to express ourselves with unqualified praise of the thorough work and high artistic skill evident in its production. There is no other work on histology which equals it. It is

in every way equal to the demands of science in this field. (Published in London, by Smith, Elder & Co; in Philadelphia, by J. B. Lippincott & Co).

BOOK NOTICES.

Practical Taxidermy, and Home Decorations, together with General Information for Sportsmen. By Joseph H. Batty. 125 illustrations. New York: Orange Judd & Co., 1880. 1 vol., cloth, 8vo, pp. 203.

Mr. Batty has been official taxidermist to various government expeditions in the Western territories, and his experience in this and its kindred arts is, hence, unusually full.

After some preliminary chapters on outfit, camping, trapping, the choice and care of guns, etc., he describes how to prepare animals' skins for mounting, how to prepare and mount skeletons, how to collect, prepare and mount bird skins and eggs, the preservation of the reptiles, fish and crustacea, the making of cases, chests, cabinets and stands, and adds a number of recipes for cements, glues and preservative fluids. A second part is devoted to the decoration of homes with natural objects, such as ferns, autumn leaves, grasses, feather work, ornamental flower crosses, etc. The work is a praiseworthy one in all respects, and must certainly interest a large circle of readers.

We mention in this connection the beautiful illustrated catalogues of the Orange Judd Co. One is of rural books, the other of standard sporting books. They present a most tempting series of titles to the agriculturist, horseman, horticulturist, or sportsman, and if our readers want to be sure to spend some of their money, we advise them to write for these catalogues and look at their contents.

Transactions of the State Medical Society of Wisconsin, 1880, pp. 207.

Proceedings of the Louisiana State Medical Association, 1880, pp. 111.

The Wisconsin Transactions contain some papers showing close study. That by Dr. N. Senn, on fracture of the rim of the acetabulum, is an able analysis of the reports of twenty-seven cases, supported by a series of experiments on the cadaver. Three cases of acute anterior poliomyelitis are well reported by Dr. J. Dorland. Dr. George Seiler writes an able defence of the method of delivery in pelves narrowed in the conjugate diameter, advocated by Profs. Schröder and Goodell. Dr. G. F. Hunt gives an extended

study of the forms and causes of uterine hemorrhage. Other articles are on internal hemorrhoids, by Dr. H. T. Godfrey; on the presentation of the funis, by Dr. J. G. Meachem, Jr.; on medullary cancer of the kidney, by Dr. Geo. M. Steele; diphtheria, by Dr. B. O. Reynolds, etc. The annual address, by Dr. J. G. Meachem, is entitled "Honor to Medical Men."

The Louisiana proceedings contain a number of addresses and reports, by appointment, principally of a local character. Dr. T. G. Richardson gives the particulars of fifty-three cases of hydrophobia occurring in Louisiana. Dr. A. B. Snell has a thoughtful paper on the conservative influence of disease, in which he advances many just reflections. A useful contribution to medical hydrology is made by Dr. A. W. de Roldes, in an article on the use of cold water and the cold douche in algid and choleric pernicious fever. The discussion on morbus coxiarius, at the International Medical Congress, in 1876, is acutely reviewed by Dr. M. Schuppert.

Rocky Mountain Health Resorts; An Analytical Study of High Altitudes in Relation to the Arrest of Chronic Pulmonary Disease. By Charles Denison, A.M., M.D. Second Edition. Boston: Houghton Mifflin & Co. Paper, pp. 192.

Dr. Denison naturally writes in favor of high altitudes as a resort for consumptives, as each writer resident at a health resort writes in favor and not against it. But it is fair to say that he does so from considerable observation, with a good discrimination, and with a strong backing of authorities who recommend altitudes from a study of results. Not every case is benefited; some are injured, and should be forbidden even to try the experiment (p. 140). It is a strong point, which Dr. Denison considers well established, that if taken early, a resort to high altitude gives, on the average, better results than do less positive climates or means of cure. About one-half the cases who came to Colorado in the second stage, reported themselves "much improved," after an average residence there of a year and nine months. This seems to us a very good showing, and we do not know what climate can do better.

In the Swiss and Tyrolean Alps, very elevated stations are patronized, both winter and summer, by consumptives, with advantage, and no doubt our elevated plains at the base of the Rocky mountains will soon become popular sanatoria for numbers of invalids. His book will be

found an intelligent and reliable guide for them.

Camping in Colorado. With Suggestions to Gold Seekers, Tourists and Invalids. By S. Anna Gordon. New York: Authors' Publishing Co. 8vo, cloth, pp. 201. Price \$1.00.

This neat volume, composed by the wife of a physician, portrays a journey over the great western plains to the popular resorts of the Rocky Mountains. The events of the tour are narrated in an agreeable manner, and that the writer is a close observer is evident in every page. A great deal of general information about the country, the people, and their mode of life, will be found.

One chapter is devoted to the climate of Colorado, as one suitable for pulmonary complaints. Here the authoress acknowledges the helping hand of her husband. That he should have seen fit to introduce a new variety of phthisis—"hepatic consumption"—might justly lay him open to criticism. But passing that by, we note he is by no means ecstatic about the Colorado climate. He reports the development both of phthisis and asthma in previously healthy persons in Colorado. He says: "Few persons with weak or diseased respiratory organs can bear the higher altitudes," (p. 75). Many are unable even to support the atmosphere of Denver. The benefit seems to be greatest in children and quite young patients.

The volume is neatly printed and bound, and gives one a very good idea of what such a journey has to offer—both its pleasures and its disagreeables, the latter by no means few.

Prevention and Cure of Chronic Consumption. By David Wark, M.D. Authors' Publishing Co., 1880. Cloth, pp. 108. Price 80 cts.

In this small volume the author advocates a system of passive movements, intended to develop the respiratory capacity, and thus lead to a better aeration of the blood, the absence of which he considers the cause of tubercle. The suggestion is by no means new, and it has been amply shown that although this treatment is a useful adjunct to other methods, it is by itself quite insufficient, and in every way inferior to free out-door exercise. The pathological acquirements of our author are indicated by his definition of tubercles; these, according to him, are "composed of particles of food which have failed to acquire life while undergoing the vital processes, because the person in whom they occur habitually breathed too little fresh air."

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THE USE OF TOBACCO.

The last six months have given publicity to quite numerous contributions to the question of the injury wrought by the use of tobacco. Many of these articles arose from the publication, in the *Lancet*, of a letter from the late eminent Prof. Parkes, so well known from his writings on hygiene. In this letter he wrote as follows:—

"As to the effect on the young, even, it is curious, in Burmah, to see children smoking in their mothers' arms; and yet when I was serving in Burmah, many years ago, I often saw a woman walking along smoking her cigar of tobacco rolled up in a plantain-leaf, and carrying on her hip her child of two or three years old, who also had his or her little cigar, which was smoked with the greatest gravity. On talking to the Burmese (who smoke constantly), they would never allow that even children were in the least damaged. When I was in Turkey I tried to make inquiries of some of the intelligent Turkish gentlemen; one or two of them said they thought the Turks had learned to smoke from the Europeans, and had been growing apathetic and dull ever since. But others laughed at this, and the rural Turk, who smokes a good deal, is a fine, active, energetic fellow.

"I have talked to many Germans, who all stand out manfully for tobacco.

"In conclusion, I confess myself quite uncer-

tain. I can find nothing like good evidence in books; too often a foregone conclusion, without any evidence to back it, is given.

"I think we must decidedly admit injury from excess; from moderate use I can see no harm, except it may be in youth."

Such an admission, from so eminent an authority, naturally excited, in no slight degree, the ire of the tobacco phobes. Cases of paralysis and convulsions, chronic dyspepsia, amaurosis and other ills and ails, were sent in, to such an extent that the moderate smoker might well become alarmed. One suggests that the Life Insurance Companies should schedule separately their tobacco users from those who shun the weed; while another proposes that some half-a-dozen gentlemen in good professional practice should be asked to institute an inquiry among their paralytic patients, so as to ascertain whether smoking had anything to do with inducing paralysis, and for that purpose to inquire whether the parties had been smokers of pipes or cigars, and to what extent; and if smokers of pipes, what sort of pipe. Likewise to inquire whether paralysis was more frequent among men than women, or more severe in the one than the other.

With many the question is evidently already disposed of. One such breaks forth in this strain:—

"Eminent authorities, in every country and in every department of science, concur in classing tobacco among the narcotic poisons, than which none are more deadly; indeed, like Aaron's rod, it has secure within itself the most magical and worst of all its rivals—nicotia, sulphureted hydrogen, hydrocyanic acid! What a den of deadliest poisons, all having their *habitat* in this colossal curse, termed tobacco."

Evidently, to such a mind future investigation can offer no evidence worth the naming.

The net result of the discussion, so far as we can see, is like that of most desultory arguments; isolated facts are stated, but no general truth is educed. It is brought into stronger relief, that on some constitutions the effect of even small quantities of the weed is noxious in the extreme; that some persons can use it freely during a long life, without perceptible bad effect; while with the majority the moderate employment of it appears to exert, as Dr. Parkes said, no positive

toxic effect that we can unmistakably trace to this source.

The forms in which it is used have come in for a share of the discussion. One writer was of opinion that smoking a pipe is the least injurious, which is certainly contrary to the general opinion. The cigar, at any rate, is rapidly supplanting the pipe in civilized society. Snuffing, which was so fashionable a hundred years ago, and was probably less hurtful than smoking, has gone out of date in the better circles.

The whole subject is evidently one which could be advantageously studied again, provided the investigator divested himself of all partiality for or prejudice against the habit. For a long time we have had no report on the weed, of the author of which this can be said.

If we are willing to accept the opinions which sanitarians in other nations have formed, we have a very decided one ready to our hand in Switzerland. That intelligent republic enacted a law, last year, prohibiting the sale of tobacco to minors under fifteen years of age, and making it an offence against the law for such to smoke. Hence a boy of twelve or fourteen who parades the streets of Geneva or Bern with a cigar in his mouth is liable to be arrested and committed to the police station; and as they have a disagreeable habit in that republic of enforcing the laws they enact, such would be pretty certain to be the juvenile smoker's fate.

We recommend to our fellow-countrymen their manner of dealing with the habit, which, whether harmless or not to most adults, is unquestionably of great injury to young boys.

NOTES AND COMMENTS.

Complicated Presentation.—Spontaneous Delivery.

M. Tarnier, in a recent séance of the Académie de Médecine, of Paris, presented an observation by M. Queirel, of Marseilles. It was the woman's fifth pregnancy, all the others having been regular; in this labor it was found that the head presented in the third position, while at the same time both feet presented with the head. The contractions of the uterus were of great energy, and the child was expelled in this

doubled-up position, and, astonishing to say, living.

M. Tarnier rather deprecated the inactivity of M. Queirel, in allowing such a labor to proceed without intervention, as craniotomy generally has to be performed when the presenting parts become engaged in the pelvis.

In such cases, before the parts become engaged the feet should be pushed back, if possible, and if not, podalic version should be performed, and the child extracted, instead of allowing the labor to go on, for the chances of a safe delivery with such a complicated presentation, are more than problematic.

Excoriations and Fissures of the Nipple.

Prof. Gio. Simula, 1880, Sassari, in a memoir on this subject, establishes the frequency of such troubles; 30 per cent. of nursing women being affected, according to Hinkel, 20 per cent. according to Schraden.

The nipples, are ordinarily affected in the first days of nursing, but rarely later on.

The causes are generally want of cleanliness, aphthæ in the mouth of the children, and the continual suction, which acts, says Joulin, like permanent cupping; the nursing of a child several months old sometimes induces these troubles. The accidents are of gravity, or not, according to the intensity of the inflammation.

The pain may be so excessive as to induce convulsions; the inflammation may extend to the mammary gland itself, whence abscess in this organ is accompanied by high fever. The nipple may be completely destroyed, and the resulting cicatrization prevent nursing thereafter from that breast.

As preventive treatment, Professor Simula prefers lotions of pure water to the astringent washes recommended by Trousseau and Cazeaux, which, in the end, he is persuaded cause the exfoliation of the epidermis. Against fissures of the nipple he recommends lotions of glycerine in a solution of bicarbonate of soda (Startin). He considers the application of compresses wetted in pure water, over the parts, as the best treatment in these affections, allowing the child to nurse as seldom as possible.

Antiseptic Dressings.

We have already given M. Champonnière's methods of using simple solutions of carbolic acid; he resumes, in the *Journal de Med. et Chirurg., Prat.*, saying that salicylic acid cannot be depended on, and thymic acid is too caustic for

ordinary use. Nevertheless, the antiseptic of Pennès, diluted with water, may be used with advantage in the puerperal state. It is an acetic solution of carbolic acid, salicylic acid, and the essential oil of eucalyptus. This preparation is useful as a wash, but not in spray, as it is too irritating for the respiratory passages. As a topical application to wounds, carbolic acid, dissolved in olive oil, ten grams, and in a few rare cases twenty grams, of the acid to one hundred grams of the oil, can be very advantageously used, and, notwithstanding the large proportions of carbolic acid they contain, these solutions are not irritating; they may be directly employed, or the dressing may be saturated with them. Another excellent antiseptic topic is a solution of ten grams of carbolic acid in one hundred of glycerine. Whenever these solutions are used dressings should be covered with oiled silk, to prevent the volatilization of the carbolic acid. Sometimes such applications determine toxic symptoms, general malaise, gastric troubles, dark coloration of the urine. In such cases generally the liquid has been allowed to accumulate in the cavities of the wound, or there is a morbid susceptibility on the part of the patient to the action of carbolic acid; this is particularly true of children, and for them M. Champonnière has found it best to use boracic acid, which, though less powerful, is a good antiseptic. A saturated solution of boracic acid in water or glycerine may be employed as the carbolic acid solutions, but an ointment containing—

R.	Ac. boracic,	20 grams
	Ung. petrol.,	100 grams.

will be found of very great benefit when applied to excoriated and burned surfaces, or where there exists ulceration, after an attack of impetigo or eczema.

But there are other antiseptic substances employed by the older surgeons—alum, tannin, sulphate of zinc—which may yet be used with advantage. Turpentine and all the resins and tar are excellent antiseptics. All these substances were formerly used. What characterizes their use in modern surgery is, exact knowledge as regards their power, in destroying germs and their methodic employment.

Treatment of Eczema of the Fingers.

In the *Dublin Journal of Medical Science*, Dr. Finny divides the treatment into four heads:—

1. Internal medication; 2. Diet; 3. Washing; 4. Local treatment. Eczematous parts are, as a rule, too often washed. Instead of soap, he re-

commends oatmeal tea, or rain or soft water, with the addition of one tablespoonful of glycerine and two of finely powdered starch to the pint. In the early and acute stage soothing measures and ointments must be employed. When induration exists he finds india-rubber finger-stalls, fitting moderately closely, to cause rapid improvement; but these may make the finger hot and throb, hence many refuse to persevere in their use. For the itching he finds the following ointment answer well:—

R	Ung. aq. ros.,	3 j
	Ung. picis,	3 ij-3 vj
	Zinc. oxid.,	3 ij
	Hydrarg. ammoniat.,	3 j
	Cosmoline,	ad 3 ij.

Ft. Ung.

M.

Testing for Sugar in the Urine.

In using Trommer's test, Salkowski, of Berlin, recommends that the urine should first be made alkaline by means of a solution of caustic soda, and that then the solution of sulphate of copper should be added, drop by drop, until, after strong agitation of the urine, a small quantity of the hydrated oxide of copper remains undissolved. The test used thus is very much more sensitive than by the ordinary method; but one must avoid boiling too long, as in that case a reduction takes place, even in normal urine, along with a separation of the yellow hydrated oxide of copper. For cases in which this test gives doubtful results Brücke's method is recommended, isolating the sugar and applying the fermentation test.

SPECIAL REPORTS.

IV.—PUBLIC HEALTH.

One of the most interesting recent contributions to this branch is a report on an investigation to determine the prevalence of

Adulteration in Food Supplies,

undertaken in accordance with instructions from the National Board of Health, by Dr. Smart. We shall give its principal results.

Tea.—Dr. Smart does not consider the so-called "facing" of teas with Prussian blue and silicates as injurious. Mixing teas is very common in this country, but is not harmful to health. His general results were as follows:—

The teas examined numbered 117, but of these two which were grown in Georgia, and six sent specially from Japan, may be excluded from present consideration. Of the 109 remaining, 90 were obtained from sources which presumably should have furnished a pure article, while 19 were purchased at such stores as might be ex-

pected to furnish an adulterated article, if adulteration was at all prevalent. In no case was a leaf observed which was not a true tea leaf. Of the 90 the only cases of debasement were those already mentioned as having probably originated before importation, while 5 of the 19 were so deteriorated that an analyst would have been warranted in reporting them as fraudulently adulterated—one, gunpowder (Y 2), from an excess of lime sulphate facing; one imperial (W 2), from admixture with sand, and three, imperials (Y 1, 2 and 3), from the presence of exhausted leaves. Whether these debasements were effected in China or in this country is an open question; but from the character of the English importations it is probable that exhausted leaves are dried and recolored in this country, for sale among the poorer classes of the community.

Coffee.—In this popular beverage something more positive was reported; but on the whole the examination did not yield serious results. The investigator says:—

Most of the dealers with whom I have conversed have been strong in their belief that adulterated coffee is not to be found in this country, as the beans are either home ground or ground by the supplying grocer. The results of H. B. Hill's examination for the State Board of Health of Massachusetts sustains this opinion, as ten samples of ground coffee, obtained in bulk, were found to be pure, while seven package samples consisted of one with no coffee, two with very little, and four with from fifty to seventy per cent. of coffee, the rest being roasted wheat, peas, beans and chicory. But the supplying grocer is not to be trusted in all cases, as out of the few purchased samples of loose ground coffee which have been examined during the present investigation, one contained a small percentage of chicory, while two consisted largely of chicory and roasted beans. Only one sample of package coffee was received, and it sustained the accuracy of Dr. Hill's results. Chicory, corn, wheat and rye were noted on the microscopic field as adulterants; but adulterants of what? for no coffee had been discovered, and half a dozen successive slides carefully examined failed to show the presence of the nominal article.

Three extracts or essences of coffee were examined, one of which consisted of chicory and the two others of roasted starches. Two of these bore on the label an offer of a reward for proof that any other extract of coffee was as pure as they, which does not say much in a general way for the purity of extract of coffee. Two samples of chicory were examined, both of which were found pure.

Sugar.—Cane sugar seems widely adulterated by glucose manufactured from starch. On this point the result was as follows:—

Among 47 brown sugars, most of which were furnished by dealers who knew that their samples would be examined, there were found 3 which contained glucose, while among 38 samples purchased for analysis no less than nine were thus adulterated. The glucose varied from a small admixture of 30 per cent. A remark by one of

the dealers who furnished a 30 per cent. sugar is worthy of mention in this place: "Oh! they all have it, but they don't send any of it to you." Another storekeeper from whom a degraded sugar was obtained remarked, as he was putting up the samples, that I was welcome to anything he had, as he did not suppose he was any worse than his neighbors.

The white sugars, powdered, granulated, etc., were free from this adulteration; 24 of them were furnished by dealers and 15 were purchased. The syrups, of which 21 were sent in for examination and 12 purchased, were also pure.

Flour.—This important staple furnishes gratifying results. Of 58 samples examined, only one had any adulteration, and this was merely corn meal, probably introduced by accident. The same cannot be said of bread.

Bread.—Of 18 samples, 8 contained alum. Although it is by no means decided that the substance, as used by bakers, is hurtful, it is advised that it should be prohibited.

Cream of Tartar.—This substance is one of the articles which are subject to gross adulteration. Only eighteen samples were examined, but these were considered to be enough, in view of the character of the results. Six were of satisfactory purity. Eleven contained sulphate of lime, varying from seventeen to ninety per cent.; three having nearly the latter figure. Two contained no cream of tartar, but consisted instead, the one of sulphate of lime, alum, and acid phosphate of lime, and the other of alum, acid phosphate, and potato-starch. Corn-starch was also found in large proportion in one of the lime sulphate powders. Considering the use of cream of tartar in baking, its impure condition is a serious evil.

Baking Powders.—Contained alum and sulphate of lime, and were often decidedly impure.

Ground Pepper.—As ground spices in general are quite impure, Dr. Smart observes:—

The examination of the ground black peppers and spices shows to what extent adulteration may be practiced when its detection by the public is a matter of difficulty. The dealer himself appears to have lost the knowledge of the characters of the pure article, as out of four samples sent in by respectable houses in this city for the purpose of being examined only one was pure. The others contained baked flour and rice with sand enough to prove the unclean condition of the pepper itself.

Out of 18 samples of ground cayenne pepper only two were pure. Out of 23 specimens of commercial ground mustard 21 were adulterated. Out of 26 samples of ground cinnamon only one was the genuine article! The usual adulterants

are colored clays, roasted wheat, beans, rice, sawdust, etc., but, fortunately, no red lead.

In confectionery the red colors are generally harmless cochineal, but the yellows are often from salts of lead. Some yellow lemon balls yielded 7 grains of lead chromate to the pound of candy.

Relations of Epidemics.

At one of the meetings of the Epidemiological Society of London, last year, Dr. Longstaff read a paper on the relationship prevailing between scarlatina, puerperal fever, erysipelas, and other diseases, in which he deducted from the comparative death-rate curves and their annual fluctuations that the different causes of death should be classified into the *diarrhæal group*, relating to the heat of summer; the *bronchitic*, to the cold of winter; the *scarlatinal group*, and a provisional group comprising all the other causes of death not known to be much influenced by meteorological conditions. One object of the paper was to suggest the probability that the poisons of erysipelas and puerperal fever are identical, while diphtheria and croup are also due to but one poison, and to discourage the multiplication of species in the classification of disease. The paper was a valuable contribution to statistical medicine—a mode of studying disease which, pursued on an extended scale, enables the inquirer to arrive, by the numerical method, at the nature of the laws which regulate and govern the origin and diffusion of the disease. It had also bearings on the origin of diseases in zymotic or chemical poisons—now certainly one of the “burning” questions of the day in the medical world.

Impure Drinking Water

A meritorious crusade is made by the *Sanitary Engineer* (New York city), against the scandalous and increasing depravation of drinking water in this country, by the multiplication of factories which let their waste flow into streams, and similar causes. The *Engineer* properly remarks that, “The questions connected with the pollution of the water supplies of our cities are fast becoming of great importance, and the day is not far distant when every State will be compelled to take such action as will prevent either individuals or corporations from discharging waste and foul products into running streams.” The *Sanitary Engineer* has commenced publishing a series of papers upon impure water supplies, and it is certainly high time that the attention of the public is so called to this matter as to render such a public injury impossible in the future.

This problem is rendered, or is likely to be rendered, more difficult of solution by the expected diminution in the rainfall in this country, owing to the cutting down of the forests. That some change in this respect has taken place seems certain. Mr. Ashbel Welch, Vice President of the Society of Civil Engineers, thinks that the tendency of the improvement and clearing up of land in the water-shed of the Delaware river has been to diminish the dry weather flow, and to increase the volume of freshets; that is, that while the total annual volume of water might be unchanged, the distribution of it throughout the year had been materially altered during the last century. Such considerations have a direct relation to public health, and properly come as much within the province of a physician as of any professional man.

In this connection, we may refer to a well prepared article in the *Journal of the Franklin Institute*, January, 1881, by Mr. REUBEN HAINES. Among other matters, he touches upon the important question as to the significance of animalculæ in water.

The chief point to be considered is, what may be associated with these animalculæ and upon which they may feed, or in some way be the indication of its presence. Some of them, undoubtedly, live only in comparatively good water, in proof of which statement the reader is referred to the work of Dr. Macdonald on the microscopic analysis of water. Some of them require a polluted water, and one which contains sewage in not too great amount will often be crowded with some forms, as was the case with some of the London water, which in 1851, and for some years after, was taken from the river at the London bridges, where contamination with sewage was very great.

These animalculæ, therefore, may be an indication of organic filth in the water, and this filth may be excreted from the intestines of diseased people. The animalculæ themselves are probably no more injurious to a human being than raw oysters. In all probability they can be digested with equal rapidity, and there is, as far as we know, no possible way for them to get into the blood in a living state.

The Consumption of Diseased Meat.

A continued article on diseased meat and its consequences upon human health or happiness, written by Dr. Noah Cressy, of Hartford, has been appearing in the last two numbers of the *Journal of Comparative Medicine and Surgery*, (New York City). He justly remarks that some of the most dangerous diseased meat is the most inoffensive in appearance, and least liable, from its looks, to awaken suspicion. This is especially true of trichinous pork. On this meat he adds:—

Our only safety from the use of pork, which is always more or less liable to contain trichinae, in any portion of the country, is thorough *cooking*. Salting and smoking, unless long continued, has but little effect upon the vitality of these parasites. Raw ham or sausage should never be allowed upon a sanitary bill of fare; and even boiled ham, when large and fashionably prepared, as seen in many of our eating saloons to-day, not unfrequently contains these living worms. Hence our lives may be prolonged and our health improved by more attention being given to the domestic duties of the household. Then will all meats be served upon our table in a manner both to nourish and promote our happiness.

He mentions the curious fact that "braxied" mutton—that is the flesh of a sheep that has died from the most virulent form of anthrax—is not only harmless, but is a favorite article of diet with many! The flesh of cattle which have died of pleuro-pneumonia or "lung plague" does not seem hurtful. He says:—

Our great dread of the extension of the lung plague is not on account of any infectious condition of the meat, for millions of those affected animals, according to Fleming, have been consumed as human food in various parts of the world, and no evil results have been known to follow. In Great Britain and France there has been for years a regular trade with the butchers in cattle affected with the contagious form of this disease, and yet the sanitary condition of the people remains unimpaired. But it is the immense loss to our live stock property that would be entailed by such a calamity.

Nevertheless, we presume the public would be better satisfied in mind to consume flesh of healthy animals, if the choice was given.

CORRESPONDENCE.

Observations at Hot Springs, Arkansas.

ED. MED. AND SURG. REPORTER.

Although the literature upon these "wonderful" waters is by no means scanty, as standing articles extolling their virtues appear in both of the dailies issued here, and, thanks to the liberality of one of the resident physicians, pamphlets containing full information regarding their therapeutical value are distributed gratuitously all over the land, yet, I have thought it my duty to add my mite in the way of a few observations made during a two weeks' sojourn at this place.

Situated in a picturesque valley, surrounded by pine covered mountain ridges which, extending in various directions, give a characteristic grandeur to the scenery, that reminds the traveler of the dense pine forests of the Scandinavian peninsula, this famous health resort has many natural advantages that should not be overlooked. The climate is even and salubrious, the winters being usually mild, resembling spring in the North, though oc-

asionally there are spells of severe cold, and since my arrival here the mercury has been down to 6° below zero, Fahr., and while the temperature in summer frequently runs up to 100° and more during the day, the nights are always cool and pleasant, and the atmosphere is rendered soft and balmy by the terebinthinous exhalations of the pine trees. The city, which numbers about 5000 inhabitants, extends over a considerable area, and consists chiefly of bath houses, hotels and boarding houses, gambling houses, doctor's offices, and brothels, none of which can lay any claim to architectural beauty, for with the exception of a few of the bath houses, that are fitted up in good style and provided with all modern luxuries, and one or two buildings under construction, nothing but miserable board shanties are to be seen anywhere. I must not forget to mention that an enterprising Chinaman has also opened a den, recently, for the accommodation of those addicted to the habit of opium smoking, many of whom come here to get cured of this vice. The streets and sidewalks are in a bad condition, and there is nothing to show for the vast amount of money spent here annually by visitors,* and the immense expense of the United States Government during the sojourn of her commissioners here.

Although the season has not commenced yet, one meets everywhere the lame and deformed, the miserable wretch whose nasal bones have disappeared and the victims of the worst forms of cutaneous diseases, all being here with the hope of getting cured, yet few having money enough to pay their physician, or even buy medicine, relying solely on the virtues of the waters, forgetting that the baths cost from \$4.00 to \$10.00 per course (21 baths). Thanks to the munificence of the United States government, the indigent may, however, bathe free, at the mud hole, after 6 P.M. The baths are usually taken at the temperature of 96° to 108° Fah., and the water drunk at a much higher temperature—about 120°. Cold and warm douches, vapor baths and packs are also made use of, to great advantage, in certain forms of disease.

As regards the therapeutical effects of these waters, they have undoubtedly been over estimated by those who are pecuniarily interested in drawing visitors to the place; but judging from the large number of persons who have come here on crutches, the victims of rheumatism, and who are now enjoying perfect health, there can be no doubt of their potency in this affection. Their efficacy in the treatment of various forms of syphilis (when used in conjunction with mercurial inunction and large doses of iodide of potassium), is also a matter of every day observation here; but I am rather inclined to believe that this depends more on the eliminative effect of the hot water used, both internally and externally, enabling the patient to take anti-syphilitic remedies in much larger doses than could otherwise be borne, than on any specific virtue in the water, for, as Prof. Keyes, observes, "the water is cer-

* The number of visitors who annually resort to the Springs has been variously estimated; thus one of the daily papers gives it as 25,000; a physician here told me that 45,000 invalids visited the place last year, while the superintendent of the railroad said that the number did not exceed 1000.

tainly quite poor in mineral ingredients, while its alleged magnetic qualities are imponderable." Iodide of potassium is frequently given here in enormous quantities (an ounce and a half to two ounces daily), and mercury in proportionate doses, without producing any unpleasant symptoms whatever. One of the most marked effects produced by the use of these waters is a rise in the temperature, together with an increased activity of the circulation, and, of course, of tissue metamorphosis, the products of which are rapidly removed by the augmented action of the eliminative organs. Now, if the modern theory of the mechanical action of mercury be true, it is easy to comprehend how these waters may become useful as an adjuvant in the treatment of syphilis, especially in its later stages, when deposits have formed and nutrition is greatly impaired.

In such skin diseases as are not attended with active hyperæmia, the judicious application of these waters is often followed by excellent results, and patients suffering from an atonic condition of the nervous system, caused by overwork, are invariably benefited here, while in all active congestions the waters are contra-indicated.

As some of my readers may desire to learn something of the standing of the medical profession at Hot Springs, I have taken great pains to ascertain how far the charges of unethical conduct preferred against most of them by their professional brethren abroad, and the ethical portion of the profession here, are founded on facts; and after careful inquiry I have been informed, by trustworthy, and disinterested parties, that up to within little more than a dozen years ago, when there was only one practitioner in the place, the violation of the code of ethics was never heard of. No sooner did, however, another *Æsculapius* appear upon the scene, than human nature asserted itself, an open rivalry arose as to who should control the practice of the place, in which the late arrival came out victorious, being a man of large means, which enabled him to buy the influence and good will of the principal hotels by putting \$18,000 in the Arlington, \$9,000 in the Grand Central, and \$3,000 in the Continental, and having amassed a fortune he withdrew from the contest, selling out his practice to a couple of industrious young physicians, who have proved themselves his worthy successors.

Little by little a number of able and intelligent physicians were attracted to the Springs, many of whom came here for their own health, and finding it impossible to get a practice by legitimate means, as long as all the principal hotels acted as drummers for one medical firm, that wonderful production of American inventive genius, the commercial traveler, was taken into service and sent out upon the highways to bring in the cripple, the lame, and the blind; drumming became general; the practice of medicine at Hot Springs was from this moment established on a true commercial basis; the code of ethics became a thing of the past, a medical abortion, and, though constantly on the lips of a few of the "ethical" members of the profession here, it simply serves to tie the hands of the honest physician and let the quack loose. Attempts

are, however, made to protect the unwary against the rapaciousness of the fierce and hungry wolves who infest the place; thus a philanthropic society has recently been formed by the oldest and best citizens, who have issued circulars and engaged the services of one of the most experienced drummers to distribute them among the passengers en route for this "world's sanitarium," giving them due warning to beware of quacks and cheap boarding houses, which may easily be avoided by proceeding directly to one of the principal hotels.

The agents of this society will also furnish a list of the reliable physicians in the place, or such a list may be had upon application at either of the bath houses or banks. Although it ill becomes me to interfere with so well-meant advice, yet I feel it my duty to state that board may be had here for from \$4.00 a week to \$1.00 day, and that the greatest comfort is usually to be secured for the smallest price, and though the bankers may be ever so reliable judges of who are the best doctors, I should be afraid to trust them with my money, lest I get back only 40 cents on the dollar, as was the experience of a large number of the visitors here in 1878. My advice to the invalid who comes here for his health is: Get a letter of introduction from your family doctor, or some one in whom you have confidence, to a physician here, and secure board and home comforts at a private house. To physicians who may desire to come here to practice their profession, let me say you have two courses to choose between: either establish your business on a fair and square up and up competitive plan, recognizing no other code than that which teaches "every man for himself and the devil for us all;" or if you value your professional standing, let the code of ethics, studied by the aid of that most valuable of all text books, "The Black Arts in Medicine," guide all your actions, and if you possess the necessary qualifications, a fair amount of brass and brains (if you have plenty of the former article the latter may be dispensed with), a fine form, and an eloquent tongue speaking words of wisdom on all proper occasions, immeasurable success will be yours. It is also advisable for a new physician, in a place like this, to board at the best hotel, or should his purse not allow him to do so, let him eat at some cheap restaurant and at once proceed to the hotel and pick his teeth on the steps, where people will see him. Another ruse is to engage a number of loafers, whose services may be had for a song, to sit in the reception-room, personating patients, and if a real patient comes, let him wait a couple of hours before admitting him. Yours, truly,

JACK.

NEWS AND MISCELLANY.

Medical Society Items.

—At the approaching International Medical Congress in London, next summer, it has been decided that there shall be an international exhibition of medical and sanitary appliances of all kinds; and leave has already been granted for space for the purpose in the Exhibition Building at South Kensington. An active committee has

been formed to organize and manage the exhibition. It will contain all branches of hygiene and medicine, together with surgical appliances and apparatus in use in the sick-room and hospital. It cannot fail to create an interest beyond the limits of the profession. Considering the novelty of the undertaking, and the wide-spread interest associated with its objects, the exhibition cannot fail to command general approval and ultimate success. It is proposed to inaugurate the exhibition about the middle of July, and to keep it open during the month of August.

—The "American Surgical Society," though organized last June, has not come prominently before the public as yet. At the first meeting, in New York, about forty persons were present. A constitution and by-laws were adopted, and the following officers elected: Dr. Samuel D. Gross, Philadelphia, President; Dr. L. H. Dugos, of Augusta, Ga., and Dr. James R. Wood, of New York, Vice Presidents; Dr. John H. Packard, of Philadelphia, Treasurer; Dr. T. R. Weist, of Indiana, and Dr. W. T. Briggs, of Tennessee, Secretaries.

—A Congress of Laryngology is announced for September, 1882, in Paris. The members of the organizing committee nominated are MM. Fournier, Gougenheim, and Krishhaber.

—At the annual meeting of the Centre District, N. H., Medical Society, the following officers were elected: President, H. A. Weymouth, Andover; Vice President, George Cook, Concord; Secretary, George C. Blaisdell, Contoocook; Treasurer, M. W. Russell, Concord.

—At the Annual Meeting of the Northern Medical Society, of Philadelphia, held at their Hall, 14th inst., the following officers were elected for the year 1881: President, Dr. James B. Walker; Vice President, Dr. H. W. Rihl; Treasurer, Dr. E. E. Montgomery; Recording Secretary, J. G. Heilman; Corresponding Secretary, Dr. J. T. Eskridge; Reporting Secretary, Dr. L. B. Hall; Councillors, Drs. M. Hatfield, W. M. Welsh, R. J. Hess, E. R. Stone, L. B. Hall.

The University's New Provost.

Dr. William Pepper, who was recently elected by the Board of Trustees of the University of Pennsylvania, Provost of that institution, has sent to the Board the following letter of acceptance:—

Hon. John Welsh, Chairman: Dear Sir:—I had the honor of receiving, to-day, a sub-committee, composed of Messrs. Rogers, Merrick and Mitchell, who informed me of my unanimous election as Provost of the University of Pennsylvania.

They informed me at the same time that the Board of Trustees had made certain modifications in the duties and power of the Provost, and had also enlarged the disciplinary and supervising functions of the respective Faculties. While rejoicing at what appears a marked improvement in the organization of the University, I am highly gratified at finding that these changes render it possible for me, while continuing to hold my Chair in the Medical Department, and to pursue the practice of my profession, to accept the important post to which I have been elected.

I shall esteem it the highest honor and privilege to be able to serve the University in this capacity, and I earnestly trust that with the cordial coöperation of the Board of Trustees, and of the various Faculties, the general welfare, and the efficiency of its administration may continue unabated.

I have the honor to remain your obedient servant.
WILLIAM PEPPER.

The National Board of Health.

It is a painful commentary on the woful ignorance of and prejudice against public medicine, which exists in this country, that the National Board of Health has had so lukewarm a support from the public press. It has even met with not a few violent attacks, as witness the following quotation from a prominent daily newspaper published in this city:—

"Beyond entering upon the publication of a superfluous newspaper, the National Board of Health has, so far, not been known to the public as undertaking any work of sufficient importance to justify its existence. Revived and established in its present form by the demand for some competent agency to deal with the yellow fever, when that disease threatened to spread over the country, in 1878, the Board was expected to supersede the local sanitary authorities generally, and to nationalize especially the quarantine service of our ports of entry. It was very soon found that this design was wholly impracticable. While no one will be disposed to prejudge the case, therefore, it may be fairly said that the Board will have to make out a better showing than has yet been accredited by the public, before an appeal to Congress for more money and more power will be likely to receive favor."

These statements are a tissue of errors. It was never intended that the Board should take the place of local Health Boards; the yellow fever is by no means the only foe it was framed to oppose. The *Bulletin* published by the Board is a publication of great and increasing value, recognized as such by all statisticians. There is not another civilized country that does not give more attention to, and spend more money in proportion on matters of public health than ourselves.

Curiosities of Vital Statistics.

In a recent lecture the Rev. J. A. Nutting, of Fall River, Mass., quoted a series of vital statistics, to show the relationship between the birth rate and the number of divorces. He said:—

During the past twenty-five years the birth rate has decreased about as fast as the divorce rate has increased, and where the birth rate is lowest—which is where Yankees most abound—the divorce rate is highest. There is a close connection between a low birth rate and a high divorce rate," expressing his belief that "the relation between the two is that of cause and effect, the former being the cause, and the latter the effect. In the history of nations there never has but three times occurred such a breaking up of the family as is now taking place among people of New England blood. When the Greek

and Roman empires were about to fall, and during the French Revolution of the last century, twenty thousand divorces were obtained in France in one and a half years. Bad as this is, when population is compared, it is not equal to what is true of Rhode Island and Connecticut of late years.

Without vouching for the entire correctness of these statements, we believe they are largely true, and their cause is not far to seek.

A Violent Listerian.

Professor Nussbaum, of Munich, is such a determined partisan of the antiseptic method, that he would extend the statute of the German penal code, dealing with bodily injuries and damage to health through negligence or malapraxis, to such a case as a surgeon examining a wound with a finger not disinfected according to the strictest antiseptic principles. He considers, also, that the duty of carrying out these principles excuses the medical man from making, in a medico-legal case, that thorough and searching examination of a wound formerly required.

Position of Resident Physician.

An examination for three resident physicians, for the Western Pennsylvania Hospital, to serve for one year from April 1st, 1881, will be held at the hospital building, Pittsburgh, Pennsylvania, on the fourth Wednesday of March, 1881, at ten o'clock, A.M. Competition open to all graduates in medicine. About 1000 patients treated annually. Clinical instruction given daily by the staff. By order of the staff. Examiners: Chas. Emmerline, M.D.; James McCann, M.D.; W. J. Asdale, M.D.

The City of Mexico as a Health Resort.

A private letter from Mexico, dated December 28th, says:

"This is the great health-resort of the country. You could not imagine a more equable climate. No hospital remains so nearly the same temperature. My thermometer was 61° this A.M. at eight o'clock, in my room, and 60° at the door. It has not been below 58 for several days, and not above 65, and I have seen it two or three times a day. To-day I rode to a great stone basin near the town, and had a glorious plunge in spring water from Chapultepec, in the open air. Yesterday I rode over the line of Cortez' entrance into the town—30 miles, in the middle of the day without feeling the heat. Sunshine is continuous. The spring leaves are pushing, the almonds and oranges are in bloom. The roadsides are lined with scarlet sage, and I can buy a dozen roses for a farthing."

Bills Presented.

Those subscribers who have not as yet remitted for the REPORTER, for the present year, will find their bills inclosed in the present number. Their prompt attention to them will greatly oblige the publisher. Such little matters, if deferred, are very apt to be forgotten.

Items.

—Dr. Livingstone's case of surgical instruments, which he carried through Central Africa, until his death, has lately been exhibited in a shop window in Glasgow, and attracted great public attention.

—In Providence, Rhode Island, last year, there were 276 persons who died over 70 years of age. They were in the proportion of 42 males to 58 females. The two oldest were both 99 years, but as both of these were natives of Ireland, where positive proof of age is not obtainable, some doubt rests on their ages.

—Nothing is so much to be deprecated as too much zeal in a good cause. Hence, we cannot applaud the action of the curé of Seudoni, Spain. He is an opponent of homœopathy, and has declared that any sick person belonging to his parish who has tried to cure himself by the system will, in the event of death, be refused the rites of the Church.

QUERIES AND REPLIES.

J. G., Jr., of Ala., asks: "Will not chlorate of potash and calomel, when given together, form the bichloride of mercury?"

Ans.—The assertion that calomel is changed into corrosive sublimate by the chlorides of the alkalis is a metal has been asserted and denied. As a laboratory experiment it is true, but certainly to a much less degree as a clinical fact.

Dr. H. L. C. asks for suggestions in an obstinate case of *Eczema rubrum*.

Ans.—After the usual preliminaries of washing, removing scabs, etc., the following is used in the British Hospital for Skin Diseases:

B. Zinc	oleatis,	5ij	M.
Adipis,		ij	

Much depends on general, constitutional treatment and hygiene. The tar preparations and the alkalies we suppose have been tried.

Dr. Ledgerd.—If there is any depilatory the use of which is efficient, and free from pretty serious objections, we do not know it. Removing the hair by electro-puncture has not proved satisfactory.

Dr. K. P., of Ill.—St. Anthony's fire is generally applied to herpes zoster or zona; at times, also, to erysipelas. "Hives" is usually urticaria; sometimes herpes. Such popular terms, of course, have no exact meaning.

MARRIAGES.

BECKWITH—HUNTER.—In New York, on Thursday, January 13th, by the Rev. Thomas S. Hastings, D.D., Frank E. Beckwith, M.D., and Miss Rachael B. Hunter.

BROWN—BOSWORTH.—In Lebanon, Vt., December 29th, by the Rev. J. M. Dutton, assisted by the Rev. J. E. Robbins, Dr. Frederick H. Brown and Alice Bosworth, both of Lebanon.

DEATHS.

CAREY.—In Figeastle, Ohio, on December 17th, at his residence, of paralysis, Dr. S. E. Carey, aged sixty years and four months.

DEYO.—At Newburg, New York, on the 21st inst., Nathaniel Deyo, M.D., in the sixty-fourth year of his age.